TEXTILE WORLD

McGraw-Hill Publication ---------- JULY · 1946

Systematized Inspections ... Page 108

Also **MILL-OWNERSHIP CHANGES** ... Page 101

Anti-Fume DE Paste is an inhibitor for atmospheric gas fading of dyed acetate rayon.

As is well known, a number of the acetate dyes which have best light fastness fade when exposed to atmospheric gas fumes. The use of selected dyes from this group, protected by Anti-Fume DE Paste, makes possible the production of certain important shades on acetate rayon with better all-round fastness than has been possible up to now.

Anti-Fume DE Paste is substantively absorbed by the material, and its protective effect persists after washing and dry cleaning. This product is not a cure-all, but when properly used provides a valuable new tool for the acetate rayon dyer.

Commercial supplies of Anti-Fume DE Paste are being made available to the trade as rapidly as possible, and our technical personnel are cooperating with those interested in its use. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98, Delaware.

Du Pont Dyestuffs

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

DU PONT
REG. U. S. PAT. OFF.

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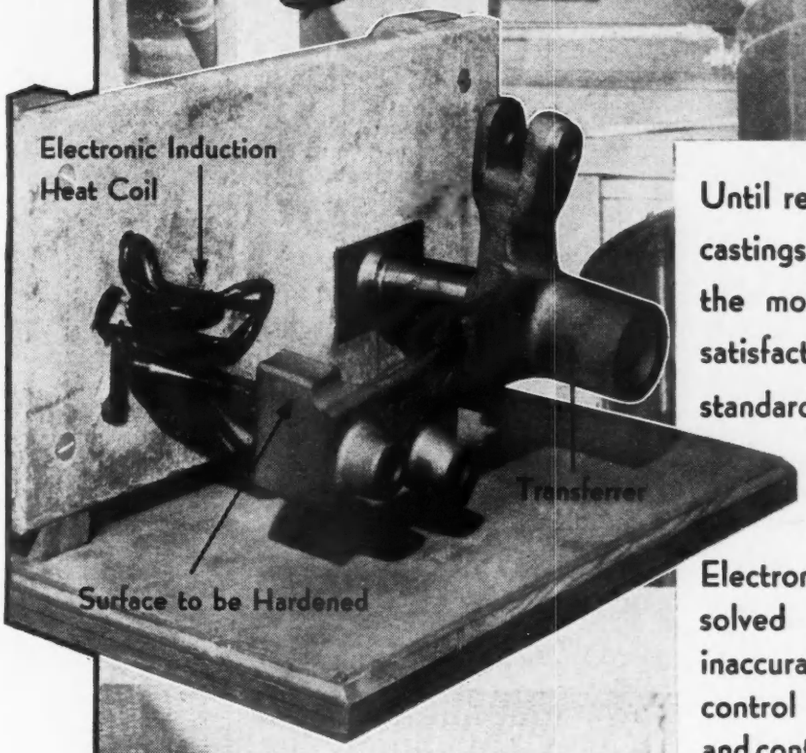
JUL 31 1946
DETROIT

New Method Solves old Problem



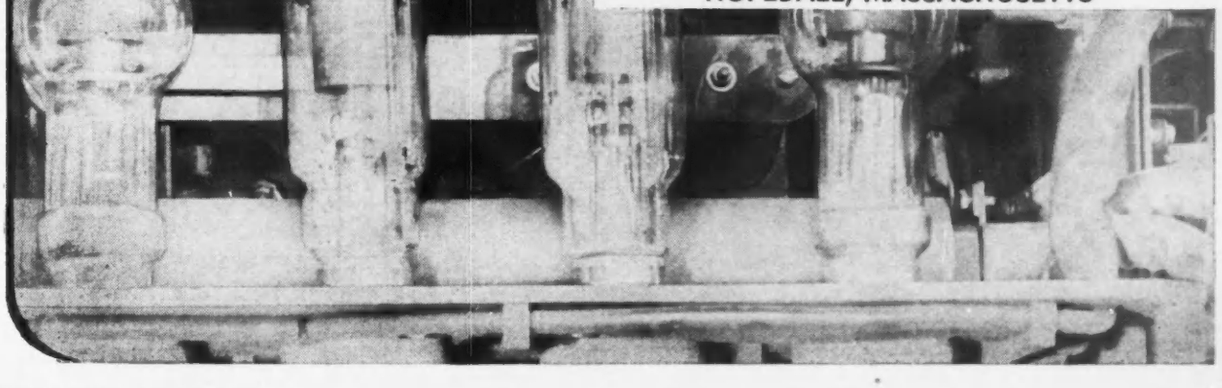
Until recently, our method of hardening castings was by the use of iron chills in the molds. Castings were not always satisfactory . . . they lacked uniformity . . . standards were difficult to maintain.

THE SOLUTION

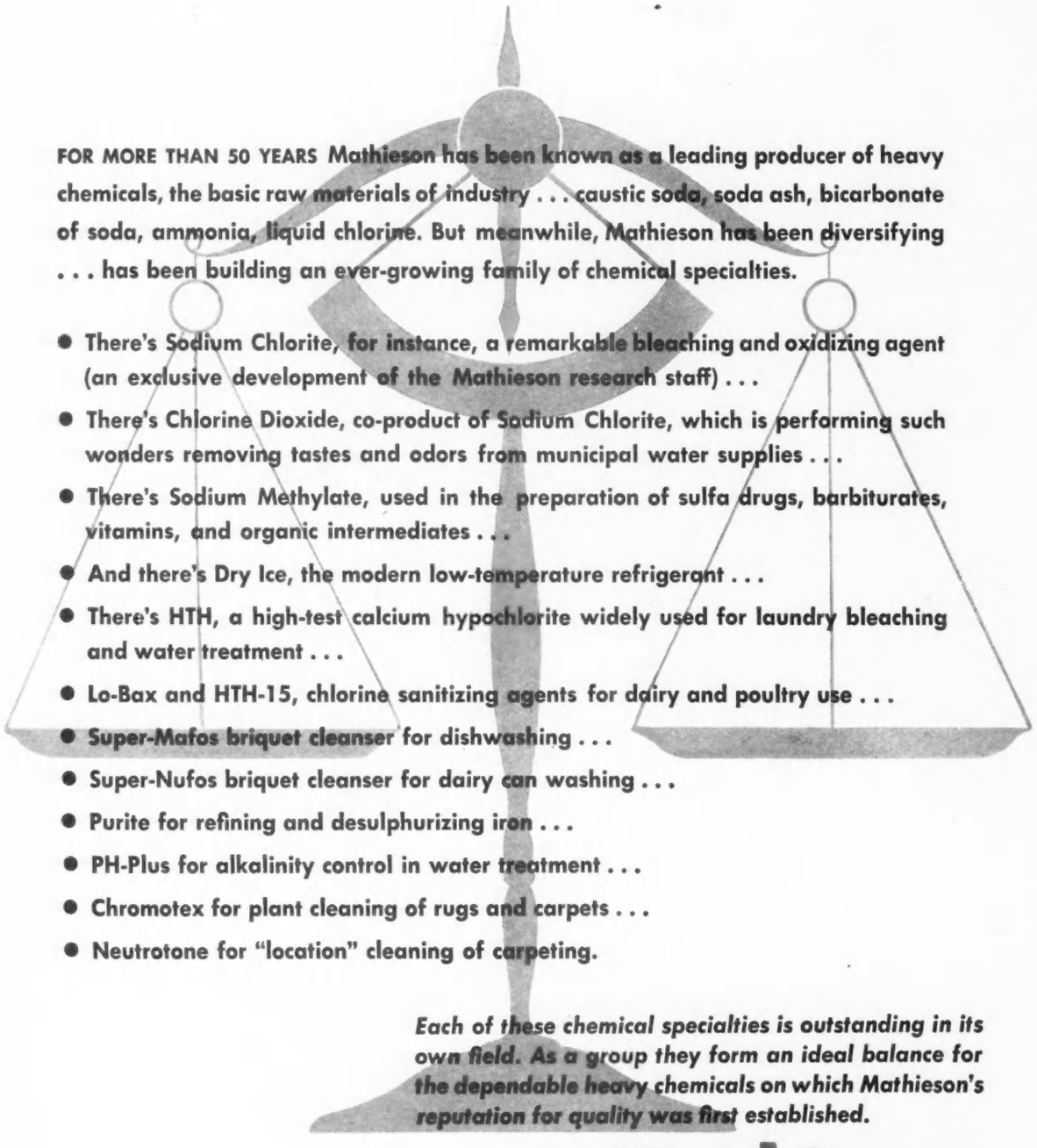
Electronic Induction Heat Treatment solved our problem by eliminating the inaccuracies of the old method. Positive control is assured of the depth, area, and contour of the section being hardened. To this scientific control we have added modern production methods. Our constant search for improved manufacturing methods results in a finer product.

DRAPER CORPORATION

HOPEDALE, MASSACHUSETTS



CHEMICAL BALANCE



FOR MORE THAN 50 YEARS Mathieson has been known as a leading producer of heavy chemicals, the basic raw materials of industry . . . caustic soda, soda ash, bicarbonate of soda, ammonia, liquid chlorine. But meanwhile, Mathieson has been diversifying . . . has been building an ever-growing family of chemical specialties.

- There's Sodium Chlorite, for instance, a remarkable bleaching and oxidizing agent (an exclusive development of the Mathieson research staff) . . .
- There's Chlorine Dioxide, co-product of Sodium Chlorite, which is performing such wonders removing tastes and odors from municipal water supplies . . .
- There's Sodium Methylate, used in the preparation of sulfa drugs, barbiturates, vitamins, and organic intermediates . . .
- And there's Dry Ice, the modern low-temperature refrigerant . . .
- There's HTH, a high-test calcium hypochlorite widely used for laundry bleaching and water treatment . . .
- Lo-Bax and HTH-15, chlorine sanitizing agents for dairy and poultry use . . .
- Super-Mafos briquet cleanser for dishwashing . . .
- Super-Nufos briquet cleanser for dairy can washing . . .
- Purite for refining and desulphurizing iron . . .
- PH-Plus for alkalinity control in water treatment . . .
- Chromotex for plant cleaning of rugs and carpets . . .
- Neutrotone for "location" cleaning of carpeting.

Each of these chemical specialties is outstanding in its own field. As a group they form an ideal balance for the dependable heavy chemicals on which Mathieson's reputation for quality was first established.

Mathieson
CHEMICALS

THE MATHIESON ALKALI WORKS (Inc.)
60 E. 42nd St., New York 17, N. Y.

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Classified According to Reader Interest

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TEXTILE WORLD

JULY 1946 — VOLUME 96 NUMBER 7

A McGRAW - HILL PUBLICATION

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THE *Long-Range* VIEW

A LESSON FROM OUR COMPETITORS

By coincidence, technical details of cotton spinning in those countries which compete most seriously with the United States have come to light at about the same time and are, to a large extent, a study of contrasts. One competitor, the oldest in the industry, is revealed to be technically and mechanically decrepit; the other, one of the youngest, to be more advanced technically and mechanically in many respects than we are. The contrasts extend to many more phases, such as lack of cooperation and extreme cooperation with machine builders.

The comparison to which we refer is between details of the English cotton spinning division of the textile industry as described in the first Working Party Report and details of Japanese cotton spinning as found by the U. S. technical textile mission.

Let us consider the latter, more surprising, disclosure first.

It came as real news to discover that we could learn much from Japanese cotton-spinning mills which remained standing after V-J Day. For example, 90% of the mills employ long draft, of which there are about nine types, similar to Casablancas, but some of which are distinctly Japanese. Spinning spindles are standardized; but, what is more important, they drive from the top of the blade to aid in reaching operating speeds up to 13,000 r.p.m. Machine parts from four Japanese manufacturers are interchangeable. In some instances, at least, rings are periodically demagnetized to reduce wear, and ring designs are credited in part for the high spindle speeds.

Obviously, our first technical textile investigations to Japan could not have seen all the details that might be of great interest and importance to our industry; but this first good look at Japanese manufacturing methods has shown that something more than just low wages was responsible for the position the Japanese textile industry had before the war. Highly developed technology is probably a greater threat to us than merely low wages. But a combination of low labor costs and high technical skill is hard to beat. The Japanese went further than mere copying—for which repeated censure has disconcerted them not at all. They not only compared, studied, and found out the best; but also they improved on the best.

Considering only technical phases, let us now look at the British textile industry. For years it was known that English mules and non-automatic looms were obsolete, but how seriously obsolete was probably not generally realized until the Cotton Working Party made its recent report. In so far as the ability of England to recapture her dominance as an exporter is concerned, the situation looks hopeless—England is technologically so far behind that it appears physically impossible for her to modernize in the few years ahead, before competitive conditions will affect her most seriously.

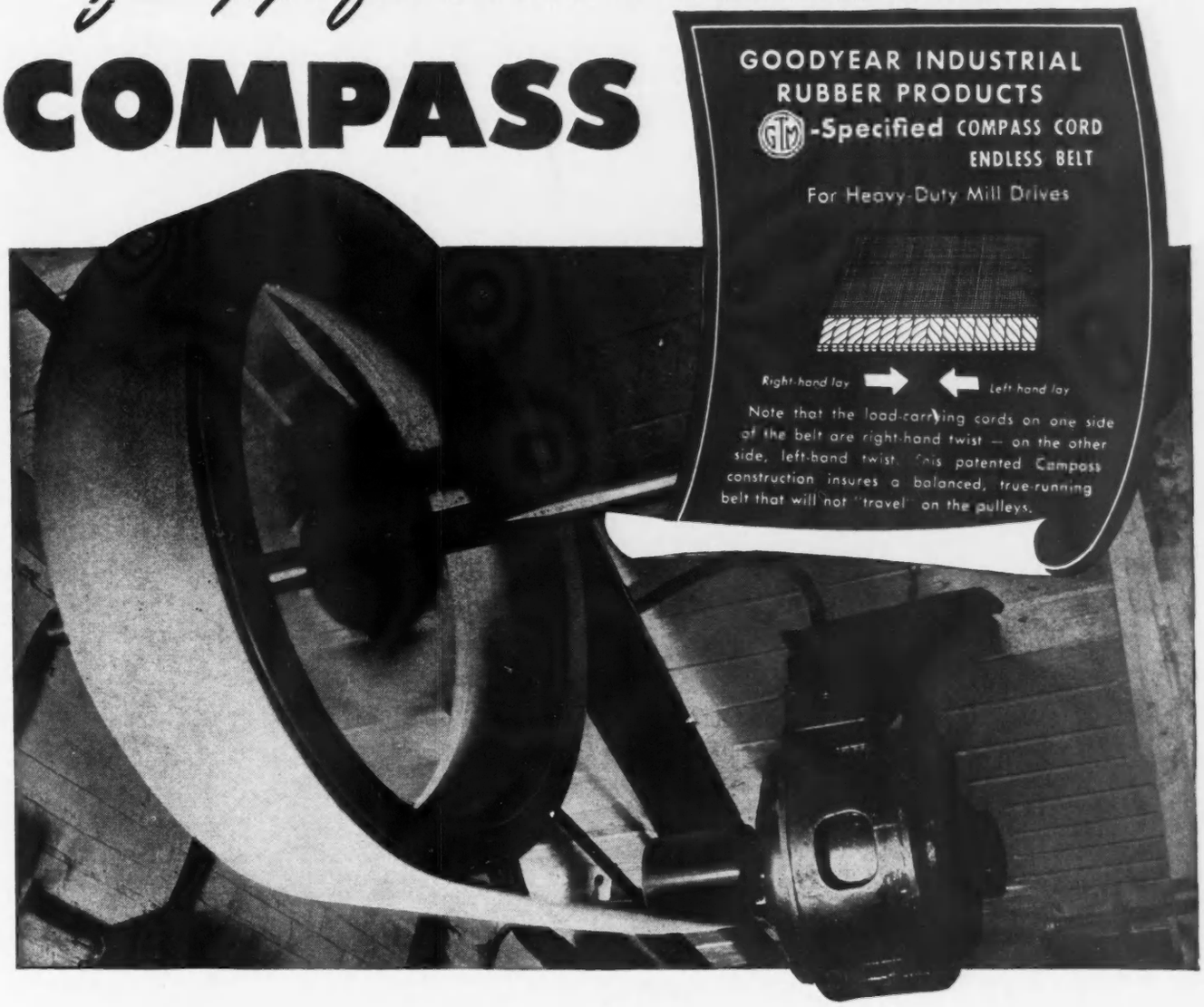
It was surprising that the English report should bluntly point out that there had been unsatisfactory cooperation between the mills and machinery manufacturers (partly understandable since most machinery was exported). The charge is serious; two units as dependent upon each other as are textile mills and their machinery manufacturers must work together to survive. This alleged lack of cooperation sharply contrasts with the reports we have from Japan. It seems that Japanese machinery builders have been most anxious to manufacture what the mills want, to give mills equipment that not only is efficient but needs a minimum of maintenance and replacements.

Technological improvements on textile machinery mean little if machines incorporating them are not built. The British, of course, know that; but now they have proof based on current history of what are the possible rewards—or ultimate costs—if mills and builders cooperate—or fail to cooperate. Considering the fine skill for which American machinery builders are renowned, we should have confidence that the improved equipment needed for United States technical superiority will be built.

C. H. Bendigo

top performance on critical drives

COMPASS


GOODYEAR INDUSTRIAL
RUBBER PRODUCTS
GTM -Specified COMPASS CORD
ENDLESS BELT
For Heavy-Duty Mill Drives
Right-hand lay
Left-hand lay
Note that the load-carrying cords on one side of the belt are right-hand twist — on the other side, left-hand twist. This patented Compass construction insures a balanced, true-running belt that will not "travel" on the pulleys.

WHEN you're after trouble-free, constant-speed, no-slip performance on such critical heavy-duty drives as slubbers, spoolers and traverse speeders — you'll find your answer in Goodyear **Compass** Cord Belts.

Why? Because **Compass** is virtually stretch-free — has far less than any other cord or fabric-bodied belt being built today. Because with **Compass** the load is carried by a layer of heavy-duty rope cords spiraled continuously so that there is no splice. Because this patented endless construction gives the belt so much greater strength, **Compass** Belts are approximately 25% thinner than other belts of equal power rating — assuring far longer flex life.

Wherever **Compass** is on the job — in large mills or small — it often averages from two to four or more times the service life of other belts. If you want consistently trouble-free service on all your heaviest-duty drives — want to keep maintenance costs at the minimum — consult the G.T.M. — Goodyear Technical Man — or write Goodyear, Akron 16, Ohio or Los Angeles 54, California.

Compass—T.M. The Goodyear Tire & Rubber Company

FOR HOSE, BELTING, MOLDED GOODS, PACKING

built to the world's highest quality standard, phone your nearest Goodyear Industrial Rubber Products Distributor.

GOODYEAR

THE GREATEST NAME IN RUBBER

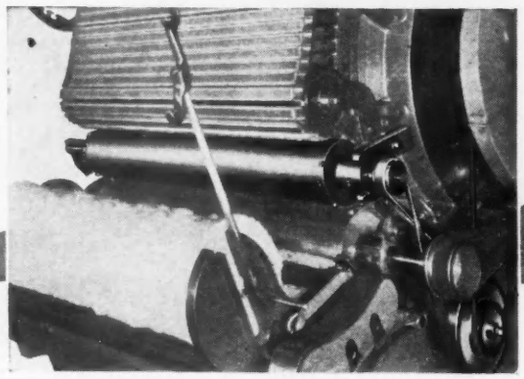
Extra Cleaning at No Additional Operating Cost

. . . an advantage which no mill can overlook today

Buyers of yarns and fabrics are becoming more and more critical of imperfections such as neps, peppery leaf and broken seed fragments in their goods.

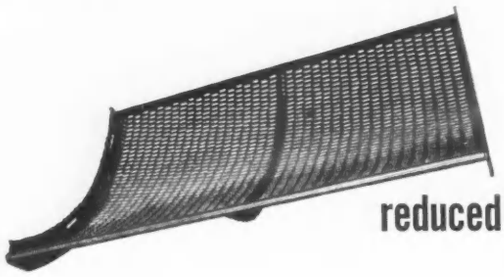
One of the well-known mills in the "quality class" has recently completed a series of tests on the Saco-Lowell Continuous Stripper and Waste Control Screen which have been in operation in their mill for the past year. They found that in addition to the extra cleaning effected by this equipment the return on their investment in one year was approximately 86%.

A survey of your plant might show how the Continuous Stripper and Waste Control Screen could also be of definite advantage to your mill.



investment in the **Continuous Stripper** returned in one year **86%**

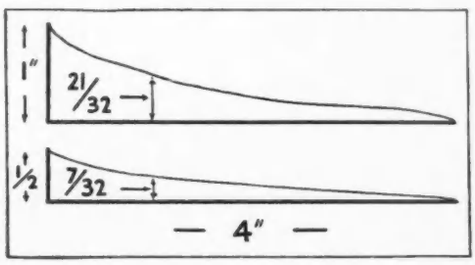
Waste Control Screen reduced neps **39%**



reduced foreign matter **26%**

BEFORE *installing new screen*	**.780** neps *per sq. inch*
AFTER *installing new screen*	**.481** neps *per sq. inch*

reduced mean staple length in fly **67%**



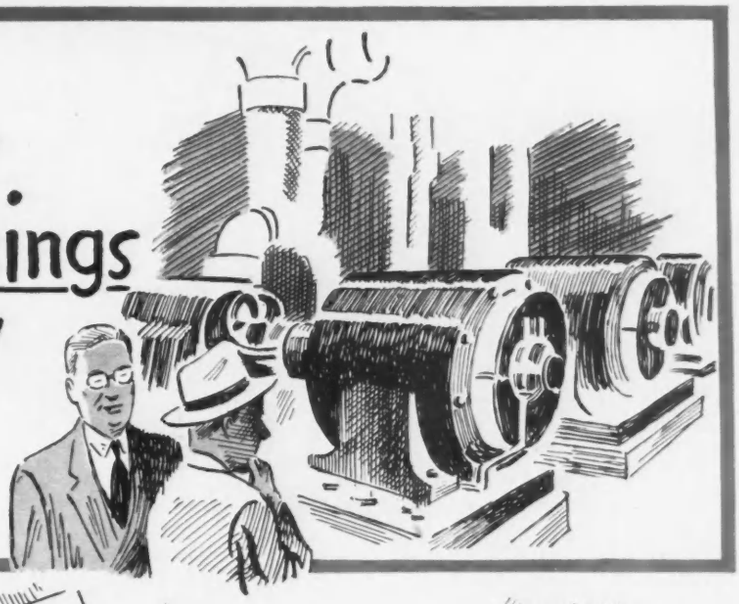
Saco-Lowell Shops

BOSTON, MASSACHUSETTS

Charlotte Greenville Atlanta

"For This Job, Give Me Two Things in a Motor"

. . . said the Power Plant Engineer



"To Drive Boiler Feed Pumps, motors must first be *simple*. For example, take these three Allis-Chalmers 800 hp, 3600 rpm motors. They're 2-pole, squirrel-cage, single winding machines . . . with practically fool-proof rotors and sleeve bearings. But second, and even *more* important . . .

They've Got to be Dependable! Here's what I mean. These same motors have given us 17 years of uninterrupted service. We've had to order replacement parts for them only twice . . . at a total cost of less than $12 a year. We call that *good performance* . . . the kind we've come to expect of *all* your motors!"

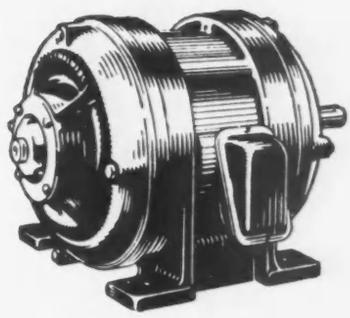
Frankly, Mr. Reader, we *are* mighty proud of our 2-pole motors. We've been developing them for high-speed requirements like this from the very earliest. Licked a lot of problems too. Like cutting down noise through better design . . . reducing windage noise with proper baffling, and curbing magnetic noise. . .

We're Getting Better Efficiencies and power factor . . . and lower starting kva, through improved squirrel-cage design. We've designed bearing brackets generously for greater structural rigidity. In fact, all the way around you can expect to find long life and low maintenance built-into our motors!

Yes, "A-C" Means Long Life in Motors!

REGARDLESS of size or type you'll be money ahead with Allis-Chalmers motors. For at A-C you can expect and *get* the same careful engineering, generous design and long-life operation that thousands of motor buyers have come to rely upon through the years.

And remember . . . while many jobs call for special or modified motors, there are *many more* that can be solved with *standard* motors . . . at less cost . . . and often with saving in time! ALLIS-CHALMERS, MILWAUKEE. A 2082

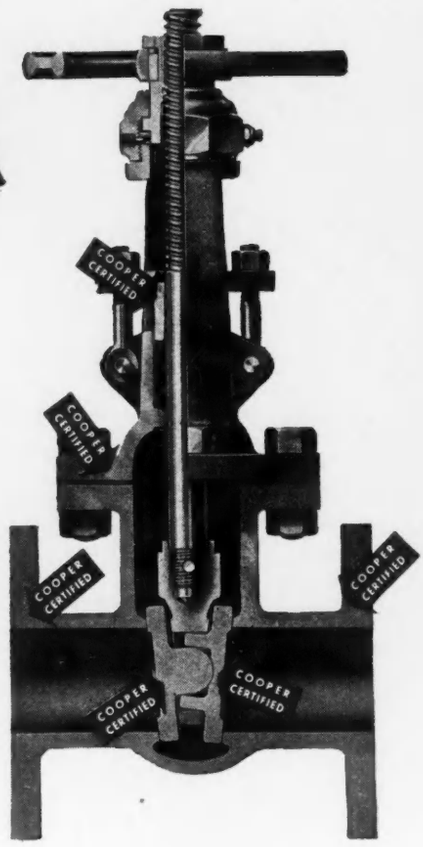


ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment — Biggest of All in Range of Industrial Products

Specify-
COOPER CERTIFIED
STAINLESS STEEL
VALVES

. . . and forget the parts that take the punishment!



COOPER Valve Certification applies to all Stainless Steel parts which come in contact with the fluid being handled. Therefore, compliance to your specifications is automatic. You *know* you will get exactly what you need.

In producing "Certified" valves COOPER *registers* the analysis of each heat and stamps each casting with its heat number. This new advance in foundry practice assures you of top quality and fullest protection, because every "Certified" Stainless Steel valve is positively identified. Duplication of analysis is quick and simple. Mix-ups in storage are cut to a minimum.

Standard types of "Certified" Stainless Steel valves offered now include: Globe, Gate, Y, Check, Needle, Quick-opening. COOPER valve users may obtain certificates on request with each unit specified.

A complete line of Stainless Steel pipe fittings and intricate castings of Stainless Steel, monel and nickel are also available.

If you want to be able to forget about the parts that take the punishment in your Stainless Steel valves, write today for complete data about the COOPER Certification method. Or if you have a particular valve problem, a COOPER engineer will be glad to assist you.

THE COOPER ALLOY FOUNDRY CO.
215 BLOY STREET—HILLSIDE, NEW JERSEY

COOPER ALLOY 25 YEARS 1921-1946

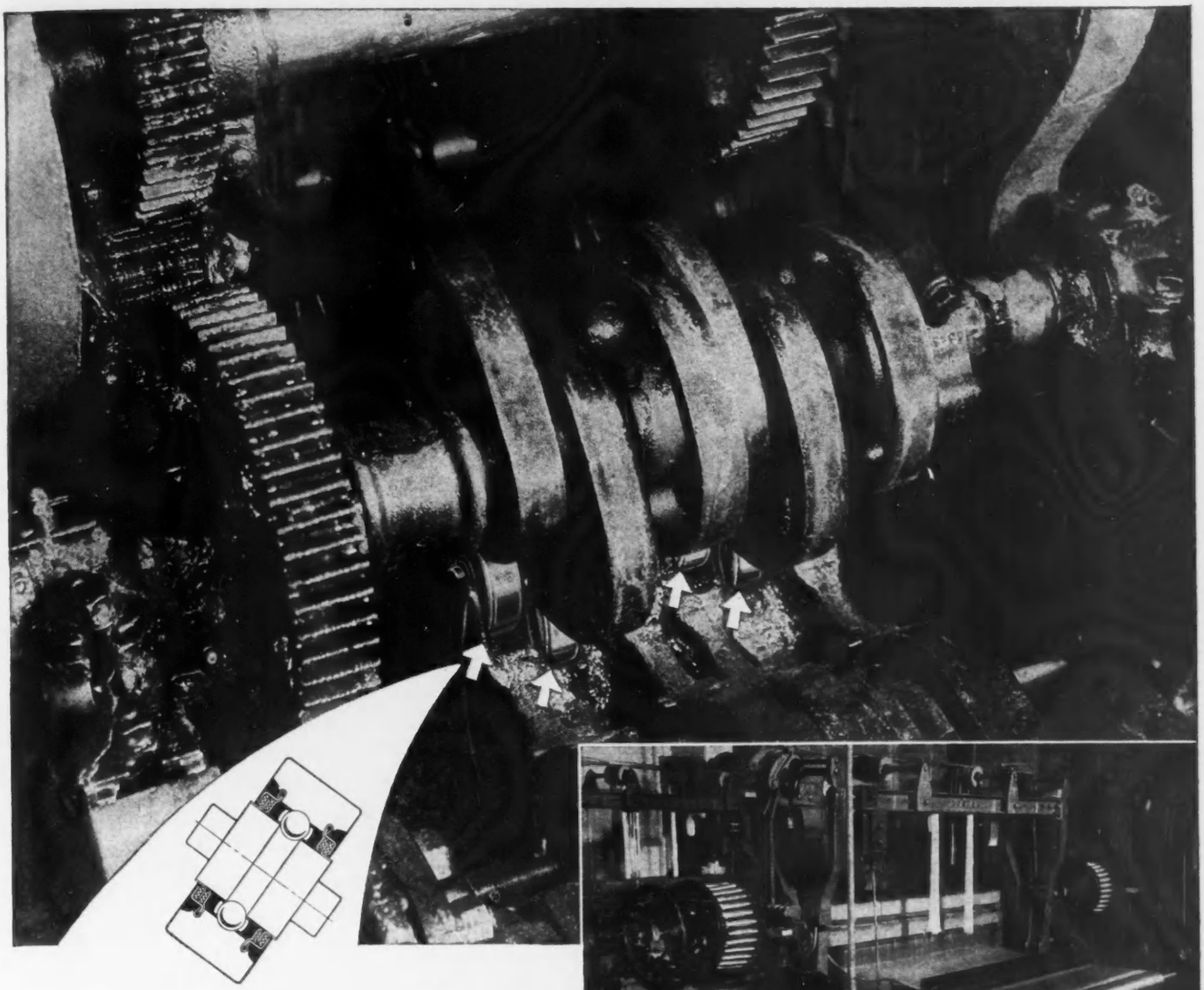
COOPER'S 25 YEARS

Cooper's quarter century in the specialized study of Stainless Steel castings is the foundation which maintains the company's unusual ability to produce sound castings. Today, the Cooper Stainless Steel foundry is the largest of its kind in the country—with all services under one roof for full control of each production phase of your valve.

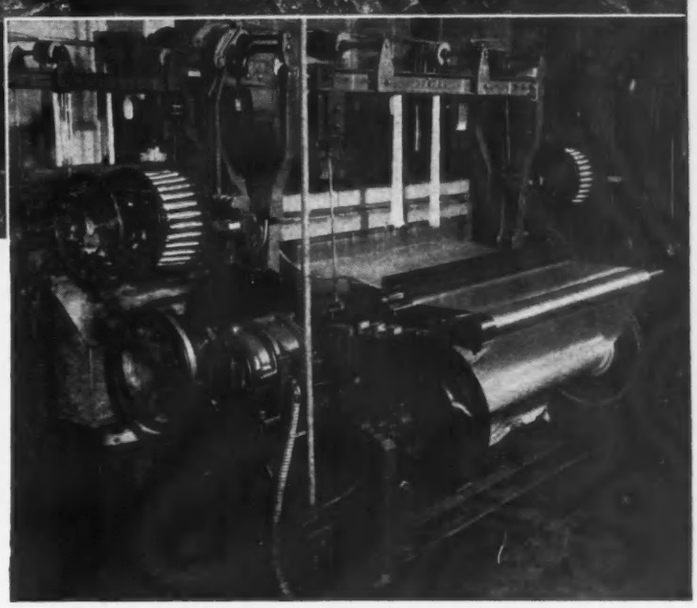
CA-107

Sold through largest Stainless Steel distributors in the country. Check with your local distributor.

THE *Cooper* ALLOY FOUNDRY CO.
STAINLESS STEEL VALVES



. . . This Treadle Roll Bearing "More Than Doubles Cam Life" In Draper Rayon Looms



This enthusiastic comment was based on night and day operation of over 8000 New Departure Treadle Roll Ball Bearings in one mill for three years without a bearing failure — performance equivalent to nine years under standard single shift operation.

These new and improved special purpose self-sealed ball bearings not only reduce wear on cams, but prevent "sparking," eliminating spark fires from that cause, and retain lubricant and keep out dirt.

Ask for pamphlet giving further details and advantages of these ball bearings developed by New Departure in cooperation with Draper engineers.

New Departure, Division of General Motors Corporation, Bristol, Connecticut.

NEW DEPARTURE

BALL BEARINGS 3418

"...with Resloom....., felting and consequent high shrinkage normally experienced with wool will not take place"*

Laundry Age, January, 1946

Mr. Arthur I. Anderson, who conducted Resloom tests, examines a wool shirt after laundering. Mr. Anderson heads the New England Testing Laboratory, Somerville, Mass.; was formerly head of the American Institute of Laundering's Department of Washroom Research and Textiles.

This statement by Arthur I. Anderson in "Laundry Age" confirms again what Monsanto textile chemists have been saying about that extraordinary melamine finish, Resloom: TRULY LAUNDERABLE WOOLENS ARE NOW POSSIBLE.

What this means to laundries is, of course, only a fraction of what it means in satisfaction and service to consumers, *and what it means, particularly, to the wool industry in new opportunities.*

Experience in mill, in finishing plant, in laundry and in actual service, shows that Resloom can give definitely ascertainable, definitely marketable values: (1) shrinkage control, (2) stability, and (3) quality, to practically all woolens and worsteds...in suitings, shirtings, blankets, wool hose, accessories, etc.

How Does Resloom Do It?

The "secret" of Resloom's success in this long-sought-for achievement is simple. When fibers of woven fabrics are passed through a water bath containing a small concentration of Resloom, the water opens up the tiny interstices of the individual fibers, permitting the injection of the resin-forming chemicals into the heart of the fiber. In the subsequent curing, at around 300° F., the resin is formed *inside* the fibers, giving the textile its stability without making it boardy in hand. No amount of water, washing or dry cleaning will separate resin from fiber once the Resloom is cured.

For complete technical data, Resloom samples, or arrangements for a demonstration in your operations, address: MONSANTO CHEMICAL COMPANY, Everett Station, Boston 49, Mass.

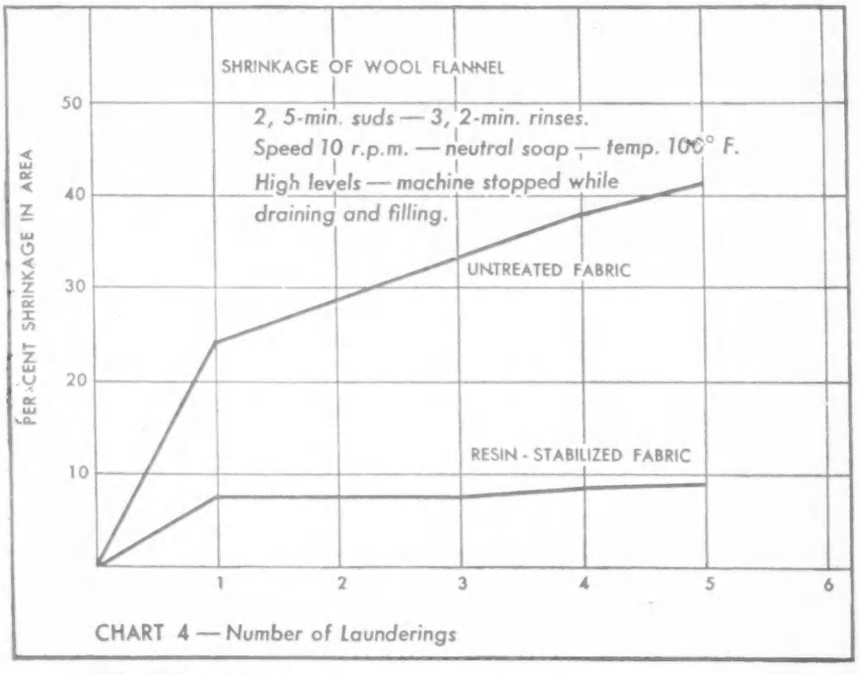


CHART 4 — *Number of Launderings*

* Full text of quotation:

"Numerous laundering tests conducted with wool fabrics resin-stabilized with Resloom reveal that even at high machine speeds and/or in high-temperature washing, felting and consequent high shrinkage normally experienced with wool will not take place. In fact, such fabrics when commercially available could be washed without use of numerous precautions now necessary. In addition to special equipment that would not be needed, it is apparent that more wool apparel would fall into the classification of 'launderable'."

Resloom: Reg. U. S. Pat. Off.

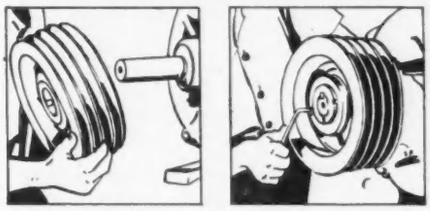
MONSANTO
CHEMICALS AND PLASTICS

The Textile
SERVING INDUSTRY...WHICH SERVES MANKIND

SET THE RIGHT Speed FOR PEAK Production

(ABOVE) TEXROPE Wide-Range Vari-Pitch sheave and V-belts give flexible speed range of almost 2 to 1 on this roving frame in a textile mill. Installation is simple, low in cost. Speed adjustments are easily and quickly made.

"MAGIC-GRIP" SHEAVE



GOES ON EASY . . . GRIPS TIGHT

Patented "Magic-Grip" sheave comes completely assembled. You simply slip it on the shaft (there's easy clearance for even over-size shafts) then tighten three cap screws. Sheave is locked on with a powerful clamp fit — yet it can be removed just as easily. No hammering to damage motor bearings — no filing or reaming. And, no wobble, weave or backlash.

TEXROPE Variable-Speed Drives Give Speed Flexibility at Low Cost

ON MILLS, machine tools, blowers, pumps — wherever changes in speed will add to operating efficiency, output or economy — get the speed flexibility you need with low-cost constant-speed motors and Texrope Variable Speed Drives. There are types to meet all requirements: Vari-Pitch sheaves, for stationary and motion control, Wide-Range Vari-Pitch drives and Speed-Changers.

COMPLETE V-BELT SERVICE: Your Allis-Chalmers dealer or district office offers TEXROPE "Super-7" V-Belts in five types, all lengths and sections; TEXSTEEL, TEXDRIVE and "Magic-Grip" Sheaves. It's a COMPLETE line of V-Belt equipment, engineered by Allis-Chalmers, originator of the multiple V-Belt Drive. ALLIS-CHALMERS, MILWAUKEE 1, WISCONSIN.

A 2084

ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment — Biggest of All in Range of Industrial Products

TEXROPE V-BELT DRIVES

If you need a long-life compressor...one that has the stamina to generate Air Power continuously at full capacity, 24 hours every day, week after week... *you need an Ingersoll-Rand Class "ES."*

This heavy-duty compressor is designed, built, tested, and rated for severe service throughout many years. In addition, it is the most efficient, trouble-free single-stage compressor available. For these reasons an "ES" will save you hundreds, perhaps thousands, of dollars during its lifetime.

Whenever you have problems concerning Air Power... its generation, its distribution, or its thousands of labor-aiding uses...call on an I-R Engineer. He can help you in many ways.

WITH "ES" *Heavy Duty* COMPRESSORS

- Sizes 5 to 125 hp.
- Liberal valving with Channel Valves.
- Free-air unloaders on each inlet valve.
- Thorough water-jacketing around all valves.
- Completely accessible, oil-tight frame.
- Double-row Timken bearings.
- Constant-speed control; or dual control, permitting either constant-speed or automatic-start-and-stop.
- Pressures 5 to 150 psi single stage.
- Also to 500 psi two-stage; 2500 psi three-stage.
- V-belt, flat-belt, or drive by synchronous motor mounted on crankshaft. Also steam drive with steam cylinder between air cylinder and frame.

Ingersoll-Rand

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COMPRESSORS · AIR TOOLS · ROCK DRILLS · TURBO BLOWERS · CONDENSERS · CENTRIFUGAL PUMPS · OIL AND GAS ENGINES

Why top oils for these top rolls?

BETWEEN that top roll saddle and those revolving rolls, you get extreme high pressures that tend to squeeze oil out and "starve" the bearing surfaces.

For continued trouble-free operation, it's vital to select oils that stick on the metal—oils that give maximum protection with minimum feeds.

Gargoyle Vactra Oils are recognized by many mills as the top value for this top roll job. During the intervals between applications, their strong, persistent films "stay put" on the working areas with minimum "creeping out" to stain the rolls and the yarns.

★ ★ ★

Get Gargoyle Vactra Oils on your top roll bearings now for efficient, economical operation.

Get this Complete Lubrication Program for all your machines

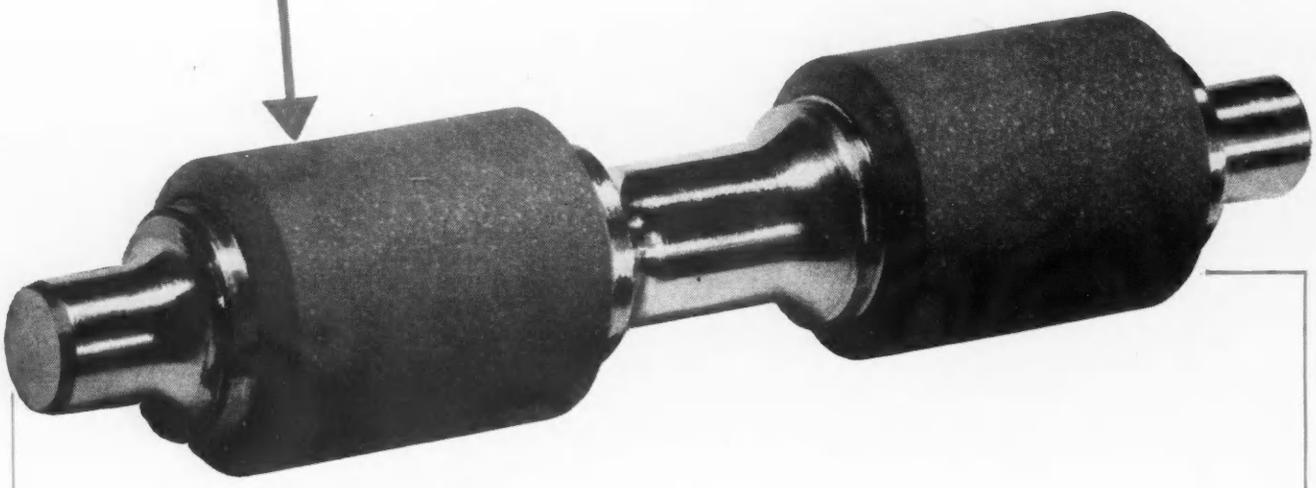
- **Lubrication Study of Your Entire Plant**
- **Recommendations to Improve Lubrication**
- **Lubrication Schedules and Controls**
- **Skilled Engineering Counsel**
- **Progress Reports of Benefits Obtained**

Socony-Vacuum Oil Co., Inc.

and Affiliates: Magnolia Petroleum Co. • General Petroleum Corp. of Calif.

SPINS QUALITY

because Accotex has



8 ADVANTAGES OF ACCOTEX COTS

1. **LONG SERVICE**—Accotex Cots are tough. And they can be rebuffed 5 or 6 times.

2. **GOOD DRAFTING**—Accotex Cots retain their excellent grip, because their cork-and-synthetic composition resists slicking.

3. **REDUCED EYEBROWING**—The resistance to slicking minimizes eyebrowing.

4. **REDUCED LAPPING**—Accotex Cots have little affinity for textile fibers and are not affected by temperature or humidity.

5. **GOOD START-UP**—Accotex Cots are non-thermoplastic and resist flattening.

6. **SOLVENT RESISTANCE**—Accotex Cots are not affected by oil, water, dyes, or any of the commonly used textile solvents.

7. **SEAMLESS CONSTRUCTION**—Accotex Cots have no seams—no structural weaknesses to cause premature failure.

8. **QUICK ASSEMBLY**—Accotex Cots are ready glued for easier, quicker assembly.

YARN LONGER

rubber's toughness and cork's "grip"

ACCOTEX Cots spin quality yarn longer than "straight" synthetic covers because Accotex combines the advantages of synthetic rubber and cork. Specially compounded synthetic rubber gives Accotex toughness. High-friction cork provides consistently better drafting for consistently high yarn strength. And because cork also helps prevent slicking, Accotex Cots don't need the frequent rebuffing that shortens cot life.

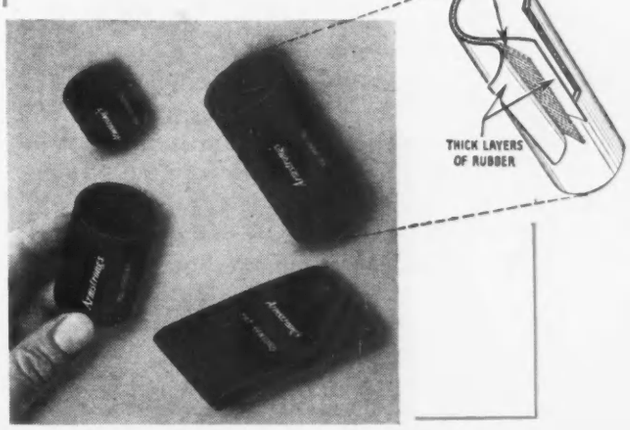
Other spinning advantages result from this combination of cork and synthetic. Accotex Cots eyebrow less and their resilience provides quick recovery from hard ends. And since they can be rebuffed as many as five or six times, you get that many extra service lives from every Accotex Cot.

Install Accotex Cots on test frames now. See for yourself why Accotex is now serving more spindles than any other synthetic cot. Ask your Armstrong representative for samples, prices, and complete information. Or write today to Armstrong Cork Company, Textile Products Department, 3307 Arch Street, Lancaster, Penna.

Also by the makers of Accotex Cots

. . . the Accotex Apron

In the Accotex Long Draft Apron, heavy layers of non-oxidizing synthetic rubber enclose a sturdy, non-stretch cord interliner. This exclusive Accotex construction, shown below, gives you more production, cleaner-running work, reduced lapping, and better grip. These advantages of the Accotex Apron are results of the same specialized research and technical skill that produced the durable Accotex Cot.



ARMSTRONG'S ACCOTEX COTS

CORK COTS • ACCOTEX APRONS

RIGHT NOW . . . THIS IS ONE OF

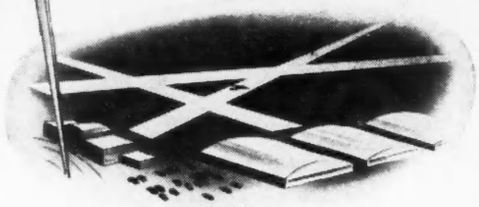
C&K's "MAIN GATES"

To those who really have the "Weave-Room Wanderlust" . . . who feel an insistent pull of gravity toward Worcester to see what's going on at the Loom Works . . . here is a word of counsel which will save much time, discomfort and fruitless conversation with hotel reservation desks.

From the plane time-table at the right, you can see that it is readily possible to leave Newark Airport early enough in the morning so that you can spend a good part of the day in Worcester and return to Newark and New York in the evening. For those with private planes, the Worcester Airport (only 3 miles from C & K) has adequate facilities.

For our part, this gives us time to show you much of what goes on in the manufacture of C & K Looms in this year of 1946, and also what C & K is doing in the way of plant modernization and expansion. You will immediately perceive that every plan and action is co-ordinated toward the one end of giving you finer, faster looms . . . in shorter time.

Please let us know in advance if you plan to come. And be sure of a warm welcome if you do.



EFFECTIVE JUNE 20

Daylight Saving Time

NEWARK TO WORCESTER

Flight	Lv. Newark	Arr. Worcester
* 50	9:20 a.m.	10:35 a.m.
52	10:40 a.m.	11:45 a.m.
58	6:00 p.m.	7:05 p.m.
60	9:00 p.m.	10:10 p.m.

WORCESTER TO NEWARK

Flight	Lv. Worcester	Arr. Newark
* 49	7:50 a.m.	8:55 a.m.
53	12:05 p.m.	1:10 p.m.
61	7:30 p.m.	8:35 p.m.

*Except Sunday

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.

between Today's Knowledge . .
and Tomorrow's Looms

SANDOZ PRESENTS *the color achievement of the month*

Young in Spirit BY LEININGER

Here are socks you'd expect to see on men who are young in spirit . . . who like the outdoors, who go places and do things and kick up their heels now and then.

Helping to give Wm. G. Leininger Knitting Co.'s Sox-Cess brand the sales-making life and sparkle that you can recognize in this color reproduction are dyes by Sandoz, supplier to many of the leaders in textiles.

A consistent policy of *thinking ahead with textiles* means that you can depend upon Sandoz to develop colors that will accurately, efficiently and economically reproduce the ideas of the progressive designer. For example: the Azoform and Viscoform colors which have such good fastness to washing on Cotton or Rayon; the Xylene Milling and Sulfonine colors for Wool and Worsted going into knitting yarns of all types; and the newer group of Brilliant Alizarine and Alizarine Milling colors of outstanding fastness to both mill and wearing requirements.

For acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . you'll find the "color achievements" you see in these Sandoz advertisements a reliable guide to your needs.

Sandoz application laboratories are at your service in New York, Boston, Philadelphia, Los Angeles, Charlotte and Toronto where stocks in wide range are carried. Other branches are located in Chicago, Paterson and Providence.

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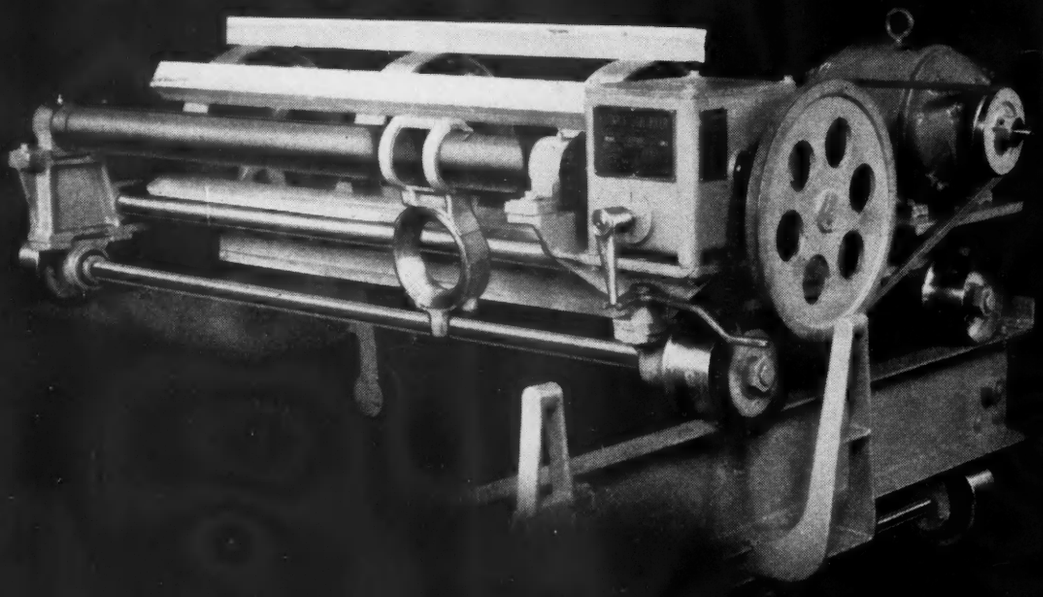
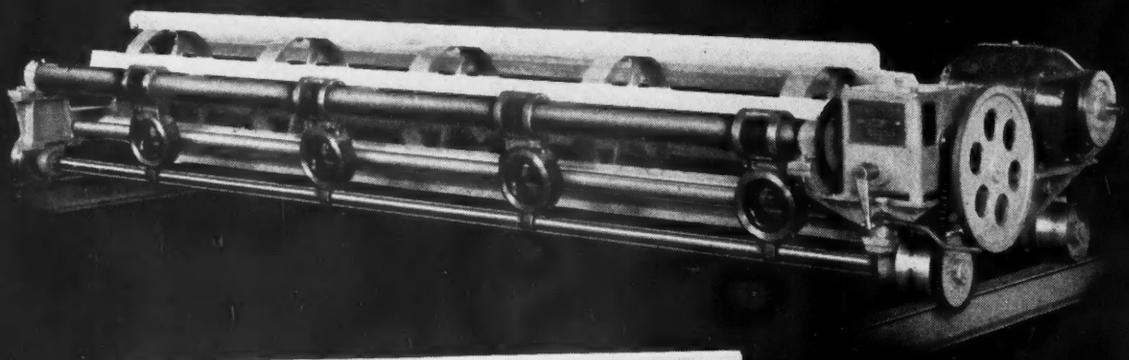
SANDOZ *thinks ahead with textiles*

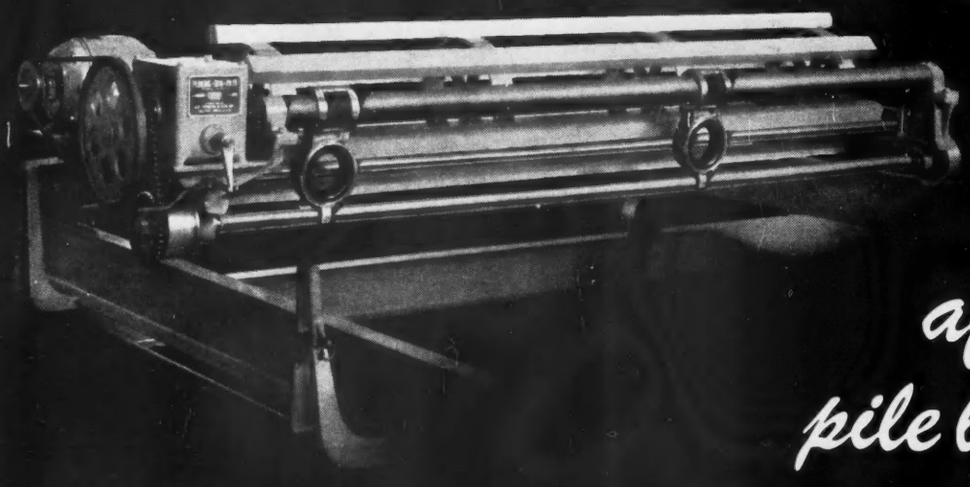
SANDOZ

PERKINS AUTOMATIC BIN PILERS

PATENTED







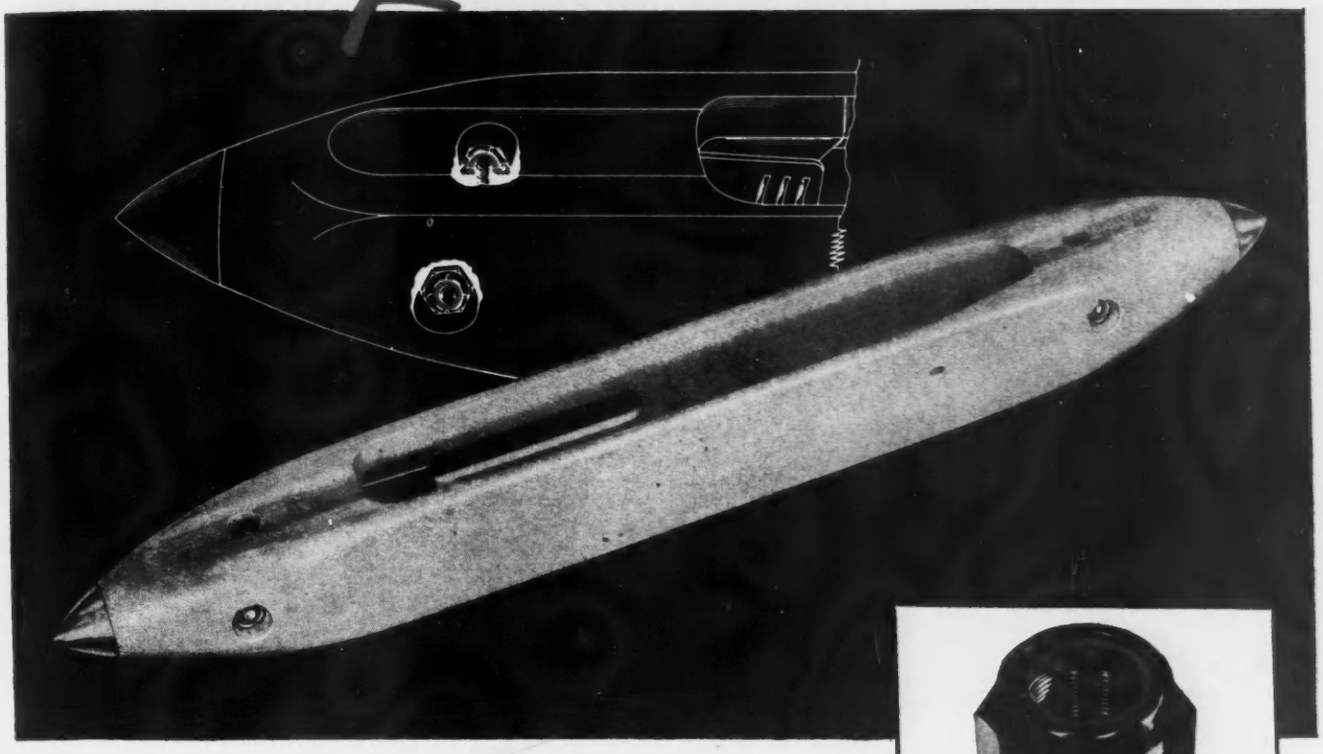
You cannot afford to pile by hand

B. F. PERKINS & SON, INC.

ENGINEERS AND MANUFACTURERS

HOLYOKE • • • MASSACHUSETTS

SLAM BANG *Shuttle Reversal* AT 2,992 FEET PER MINUTE



—*yet the Red Elastic Collar protects permanently against* IMPACT! VIBRATION!

As textile mills have found, shuttle impact and vibration cannot loosen eye-bolts and heel-bolts that are fastened with ESNA Elastic Stop Nuts. ESNA fastened bolts do not back out of the shuttle. As a result, they prevent bolts from cutting the loom reed or the warp. They prevent any loosening of the eye and the bobbin holder.

The Red Elastic Collar makes every Elastic Stop Nut self-locking against vibration and impact. It also provides permanent protection against Corrosion, Liquid Seepage, Thread Damage and Costly Maintenance.

When fastening failures cause increased down time, reduced pickage or lowered weave room efficiency; or make it necessary to over-design textile equipment as damage protection against fastener failure, we'd like to help you. Let us place the results of our experience and research at your disposal now. Address: Elastic Stop Nut Corporation of America, Union, New Jersey. ESNA Representatives and Agents are conveniently located in many principal cities.

ESNA

LOOK FOR THE RED COLLAR
THE SYMBOL OF SECURITY

It is threadless and permanently elastic. Every bolt — *regardless of commercial tolerances* — impresses (does not cut) its full thread contact in the Red Elastic Collar to fully grip the bolt threads. In addition, this threading action properly seats the metal threads — and eliminates all axial play between bolt and nut threads.

All ESNA Elastic Stop Nuts — *regardless of size or type* — lock in position anywhere on a bolt or stud. Vibration, impact or stress reversal cannot disturb prestressed or positioned settings.

ELASTIC STOP NUTS

INTERNAL WRENCHING

ANCHOR

INSTRUMENT MOUNTING

SPLINE

CLINCH

GANG CHANNEL

CAP

PRODUCTS OF: **ELASTIC STOP NUT CORPORATION OF AMERICA**

KOHORN

Complete Plants for Filament Rayon Yarn and Rayon Staple Fiber

We have now under construction plants to produce 40,000,000 pounds of rayon yarn and rayon staple annually.

Plants constructed by us since the war have reached actual pro-

duction stage within eighteen months from the date ground was broken.

Our own patented machines and processes assure our clients of a superior product and low manufacturing costs.

We furnish complete service and competent staff of engineers and chemists to operate these plants.

We have installed more rayon and staple fiber plants than any rayon producer or any other organization in the world.

OSCAR KOHORN
& Co., Ltd.

Executive Offices

501 Fifth Avenue
NEW YORK 17, N. Y.

How to Further The Economy of Machine-Scrubbing

Three-way savings are possible simply by choosing a cleanser that keeps pace with the speed of machine-scrubbing . . . *one that is specially compounded for the purpose.* Such a cleanser cuts the operating time of the machine to the minimum required, effecting savings in labor costs . . . prolongs the life of the machine . . . and saves on brushes. In contrast, slow-acting cleansers necessitate prolonged brush action, which not only needlessly piles up mileage on the machine but prematurely wears out the brushes.

All *Finnell* Cleaning Compounds are designed to work in scrubbing machines, and all are products of *Finnell's own powder mill.* There are six such cleansers, including *Setol,* the mineral oil solvent for use on mill and factory floors (it emulsifies grimy oil and grease *instantaneously*) . . . and *Finola, the Original Scouring Powder,* for heavy duty scrubbing of smooth, hard surface floors. For consultation or literature on the full line of *Finnell* Cleansers, as well as on *Finnell* Scrubbing Machines, phone or write nearest *Finnell* branch or Finnell System, Inc., East Street, Elkhart, Indiana. Canadian Office: Ottawa, Ontario.

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Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

DRAX protection keeps slip covers fresh and clean longer!

Trademark Reg. U. S. Pat. Off.

Even DRAX can't keep playful puppies from jumping up on chairs. But DRAX *can* give slip covers *invisible protection with wax* that makes them resist soil and spotting and shed water! DRAX keeps slip covers, upholstery, draperies—any household fabric—clean and new-looking longer! That's why customers consider DRAX such a *plus value* in the merchandise they buy!

Tests by an impartial laboratory prove that DRAX actually produces water-repellency exceeding Army specifications for initial spray rating!

DRAX, made by the makers of Johnson's Wax, may be used not only on cellulose fibers, but on any textile! It's a Johnson's wax emulsion, non-flammable, that stays stable in solution. DRAX is easy and inexpensive to use. Its application requires no special skills or extra equipment!

Many textile mills are already adding the plus value of DRAX protection to their fabrics. It will pay you to find out about DRAX now!

S. C. JOHNSON & SON, INC.
Fabric Finishes Division, Racine, Wis.
In Canada,
S. C. Johnson & Son, Ltd., Brantford, Ont.

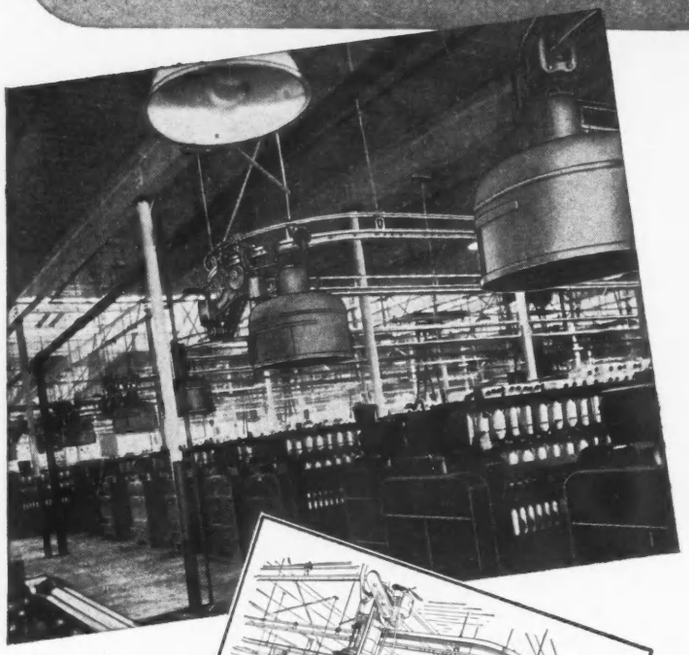
This DRAX tag is a sign of plus value!

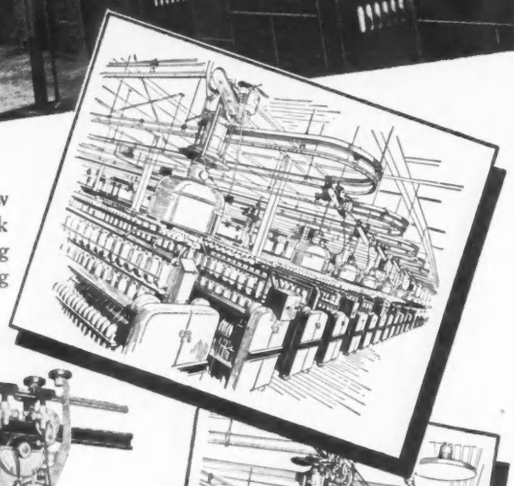
DRAX *is made by the makers of* **JOHNSON'S WAX**
(a name everyone knows)

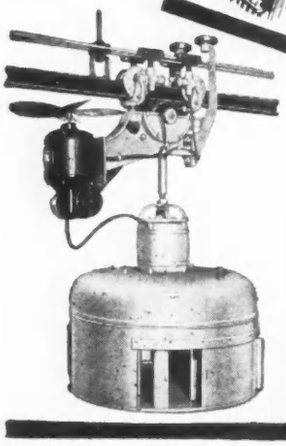
WANT THESE RESULTS . . .

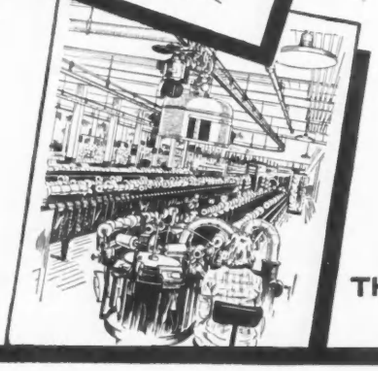
- BETTER RUNNING WORK . . .
- FEWER GOUTS AND BUNCHES . . .
- LESS ENDS-DOWN . . .
- SPINNERS HANDLING MORE SIDES . . .
- LOWER CLEANING COSTS . . .
- NO LOST PRODUCTION . . .
- REDUCED MACHINE STOPPAGE . . .

AT LOWER OPERATING COSTS









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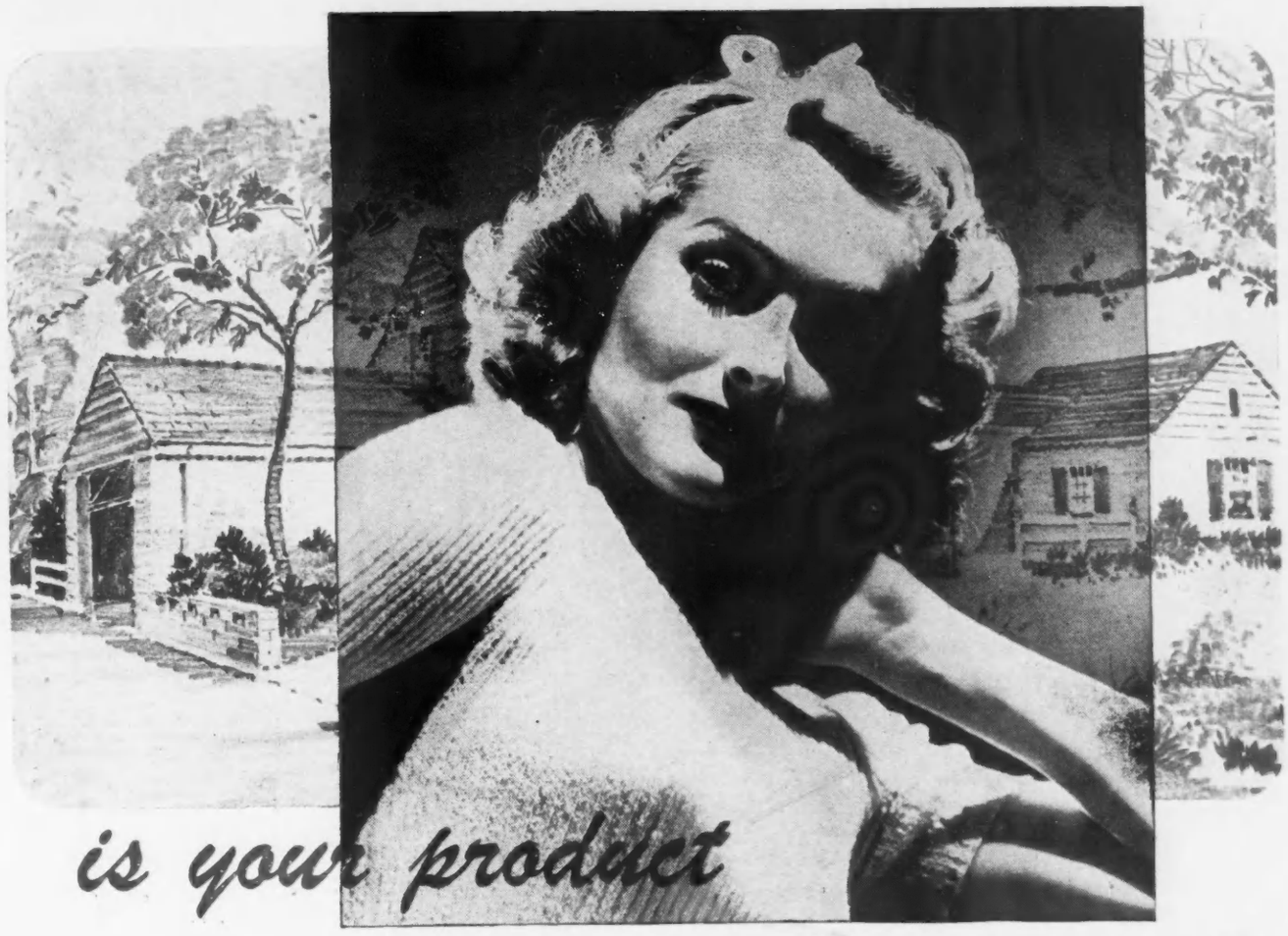
You can have them with

AMERICAN MONORAIL *Automatic* OVERHEAD CLEANERS

Let an American MonoRail Engineer explain these advantages and tell you the complete story of Controlled Cyclonic Cleaning for spinning, winding, twisting and warping operations. This information will be gladly given without cost or obligation on your part.

THE AMERICAN MONORAIL CO.
13108 ATHENS AVE. CLEVELAND 7, OHIO



is your product

HOME CONSCIOUS?..

From sweaters and knit goods to hats and hosiery, the next few years are going to be big years in textiles. Silks and rayons, cottons and linens, nylons and wools, are all bidding for part of the five billion dollar national market*. More and more of these manufacturers — 190 million in the sweater and knit goods branches alone — are turning to home conscious set-up boxes. Individual packaging instead of bulk packaging, new machinery, adequate labor supply and financial adjustments will soon make possible the expected ten percent increase in textile sales. Manufacturers of home conscious textiles can realize their share of the ten percent increase, thanks to set-up boxes with their added strength, economy and shipping convenience, taking your message home with the product.

* For a host of other facts and figures, write or call your nearest paper box manufacturer for survey No. (61) "Textile Industries" or "Sweaters and Knitted Goods Industry".

NATIONAL PAPER BOX MANUFACTURERS *Association*

AND COOPERATING SUPPLIERS

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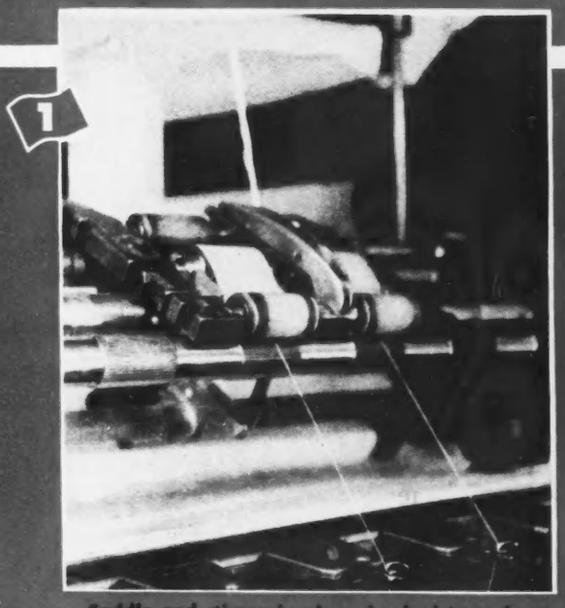
FOR INFORMATION OR SERVICE • CONSULT YOUR NEAREST SET-UP BOX MANUFACTURER

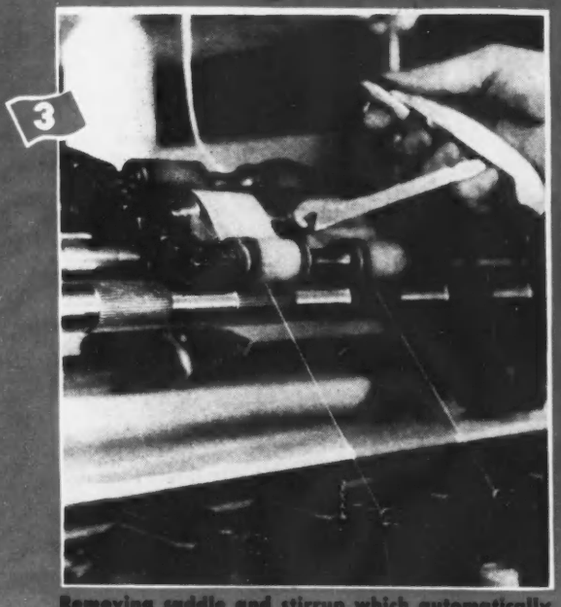
H&B Casablancas

SADDLE AND STIRRUP



Saddle and stirrup in place, hooked to spring weight below.

Pulling up saddle from back by means of finger grip, which automatically releases spring weight.



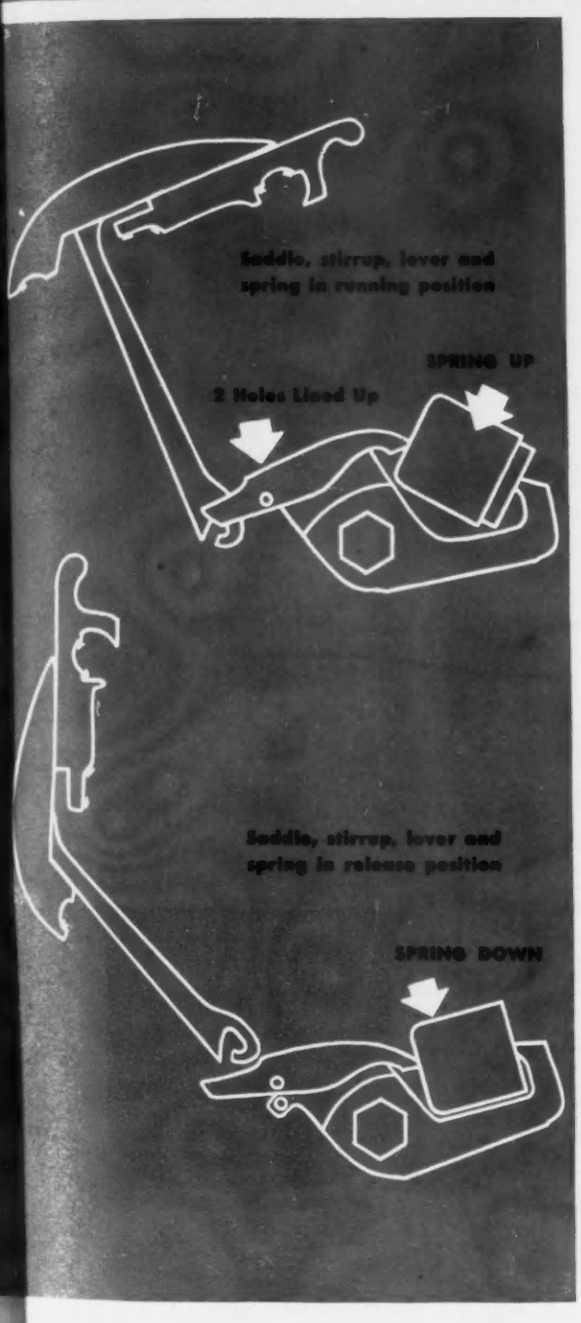
Removing saddle and stirrup which automatically unhooks itself from spring weight.

When replacing, stirrup is engaged with lever, saddle is hooked over back roll and then pressed down in front, at which time the spring automatically snaps into running position.

H&B AMERICAN

High-Draft Spinning

QUICKLY REMOVED AND REPLACED


Saddle, stirrup, lever and spring in running position
SPRING UP
2 Holes Lined Up
Saddle, stirrup, lever and spring in release position
SPRING DOWN

THE photographs and captions herewith illustrate how easy and quick it is to remove and replace saddles on H & B Casablancas spinning frames.

This of course is only one of the unique features of the H & B Casablancas Automatic Weighting System. Another is the automatic spring weighting mechanism.

With the conventional stirrup and lever-screw weighting system the amount of weight exerted at the stirrup varies with the angle of the lever to the stirrup. Furthermore, since the ratio between the weight on the lever and the weight exerted at the stirrup is 10 to 1, any increase or decrease in weight caused by a change in the angle of the lever is multiplied 10 times at the stirrup. For example an angle and weight which will give 4 lbs. on the lever will give about 40 lbs. at the stirrup, while an angle and weight which will give 5 lbs. on the lever will give about 50 lbs. on the stirrup, — an increase of 10 lbs. at the stirrup for every pound added at the lever.

In ordinary mill practice levers are seldom all adjusted at the same angle and the variations in weighting that occur because of this fact are greatly magnified at the point of effectiveness. This naturally results in very uneven spinning.

With the H & B Casablancas Automatic Weighting System, on the other hand, any variations in spring tension on the lever are DIVIDED (not multiplied) by 2.72. For example a 100 lb. spring on the lever gives 37 lbs. of weight on the stirrup while a 101 lb. spring on the lever gives 37.4 lbs., — only a fraction of a pound increase. Thus variations in weighting from one set of rolls to the next are minimized and uneven spinning is greatly reduced.

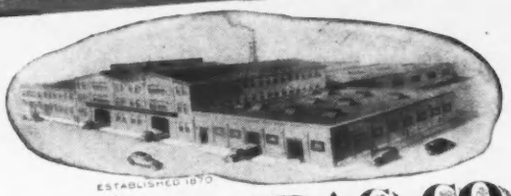
Further information on request

MACHINE CO.

PAWTUCKET, R. I., U.S.A.

ATLANTA OFFICE: 815 Citizens & Southern National Bank Bldg.; ***CHARLOTTE OFFICE:*** 1201-3 Johnston Bldg.; ***CANADIAN REP.:*** Rudel Machinery Company, Ltd., Textile Division, Montreal and Toronto.

Fewer lights, yet more light · · new proof of paint illumination with · ·



WALTER F. LIPFORD, PRESIDENT & TREAS.
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J. A. WHITE, JR., SECRETARY
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ESTABLISHED 1870

MILLHISER BAG CO., INC.,

MANUFACTURERS OF
COTTON AND BURLAP BAGS FOR ALL PURPOSES

RICHMOND 8, VIRGINIA

March 26, 1946.

The Glidden Company,
107-9 East Grace St.,
Richmond, Virginia.

Gentlemen:

About five years ago your representative, Mr. James E. Nunnally, demonstrated the use of "Spray-Day-Lite" on the walls and ceiling of our Shipping Department. The results were so amazing that we immediately purchased "Spray-Day-Lite" to paint all walls and ceilings in our plant.

Our plant was old and while there were many windows and sky-lights in the building, our people were working all day under the glare of lights. After completely spraying the interior of our plant with "Spray-Day-Lite" it was most noticeable that so few lights were being burned during the day. Actually there was more light and less glare and the plant seemed to take on a more pleasant atmosphere with the brightness and clean, white appearance this paint made.

After five years this paint is still in good condition and we have done very little retouching.

Recently we acquired a building on Seventeenth Street which very badly needed painting. We used "Spray-Day-Lite" on the inside and the results are so gratifying that we will not have to install additional lights as we had originally planned.

We have just completed a new warehouse here at the main plant, three of the walls being former outside walls and of old and dirty bricks, the other wall being of new cinder blocks. We sprayed one c... Day-Lite" on these walls and they turned out very white; believe they look better than they would have had we done brush and used two coats.

Your cooperation has been a great help to us. Mr. Nunnal... us in many ways and the services rendered have been very ... We look forward to doing all our inside painting with yo... Lite".

Yours very truly,

MILLHISER BAG CO., INC.

J. A. White, Jr.

Secretary.

JAWhiteJr/crh

ALL QUOTATIONS SUBJECT TO MARKET CHANGES WITHOUT NOTICE

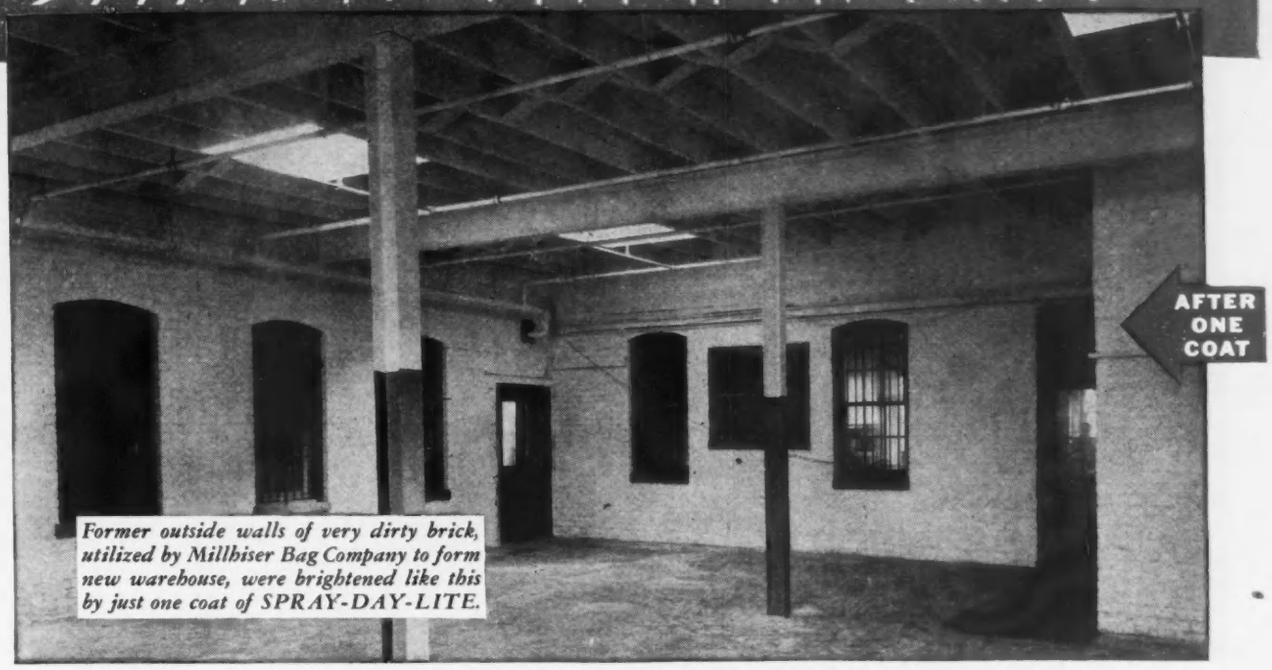
Now there's also

BRUSH-DAY-LITE

All of the established advantages of famous GLIDDEN SPRAY-DAY-LITE are now offered you in BRUSH-DAY-LITE, especially formulated for brush application.

Glidden

SPRAY-DAY-LITE



Former outside walls of very dirty brick, utilized by Millhiser Bag Company to form new warehouse, were brightened like this by just one coat of SPRAY-DAY-LITE.

One coat of famous Glidden paint can increase lighting efficiency by 102%

Yes, just a single coat of Glidden SPRAY-DAY-LITE has increased plant lighting efficiency by as much as 102%—with a resulting production increase of 15%. As in the case of the Millhiser Bag Company, the amazing light reflection and diffusion of this great maintenance finish reduces the need for artificial lighting—saves money month after month. Try SPRAY-DAY-LITE for better lighting and for these five additional advantages:

1. **SPRAY-DAY-LITE gives conventional two-coat results in only one coat.**
2. **Provides smooth, solid covering over grimy, dirty and badly discolored surfaces of almost any type.**
3. **Its intense white does not yellow with age (also available in 10 beautiful colors).**
4. **Durable, egg-shell finish eliminates eye-straining glare—washes like tile.**
5. **Sprayed or brushed, it does not sag or run; produces little fog or mist when sprayed.**

SEND FOR THIS VALUABLE FREE BOOK ON "SIGHT PERFECTION"

Tells and *shows* you how to follow scientific, E-Z-C Color-Planning in painting machines and interiors to ease eyestrain, boost production, reduce accidents. If all the guidance you need isn't in this book, a request to the Glidden Color Studio will bring you further help from our color engineers.

TIME-TESTED

THE GLIDDEN COMPANY
Dept. T-7, 11001 Madison Avenue, Cleveland 2, Ohio

- ☐ You may send your new SPRAY-DAY-LITE Color Chart showing the 10 beautiful shades and suggested color combinations.
- ☐ You may have representative call and demonstrate SPRAY-DAY-LITE in our premises without obligation on our part.
- ☐ You may send your free book, "Sight Perfection".

NAME_____

COMPANY_____ TITLE_____

ADDRESS_____

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Pacemaker in Paints

They're Lovely...

A few of the thousands of products that can be made from GEON raw materials

Boldly but beautifully colored shower and window curtains... a delicately shaded shower cap... baby's modern spotproof bib and mother's gay apron... sister's stylish raincape...

All these were fabricated from flexible films made from GEON raw materials. But they're only a handful of the thousands of exciting new products that can be made from GEON. For versatile GEON may be pressure or injection molded, extruded, calendered, cast into sheets or film, or applied as coatings to all types of textiles and papers.

And products made from GEON may have any number of unusual properties in a wide variety of combinations. For example, products made from GEON may be made resistant to water, oils, acids, foods, air, heat, cold, abrasion, mildew, cracking, creasing, and many other normally destructive factors. They may be brilliantly or delicately colored; flexible or rigid; transparent or opaque. There are applications for GEON in literally *every* home, *every* industry.

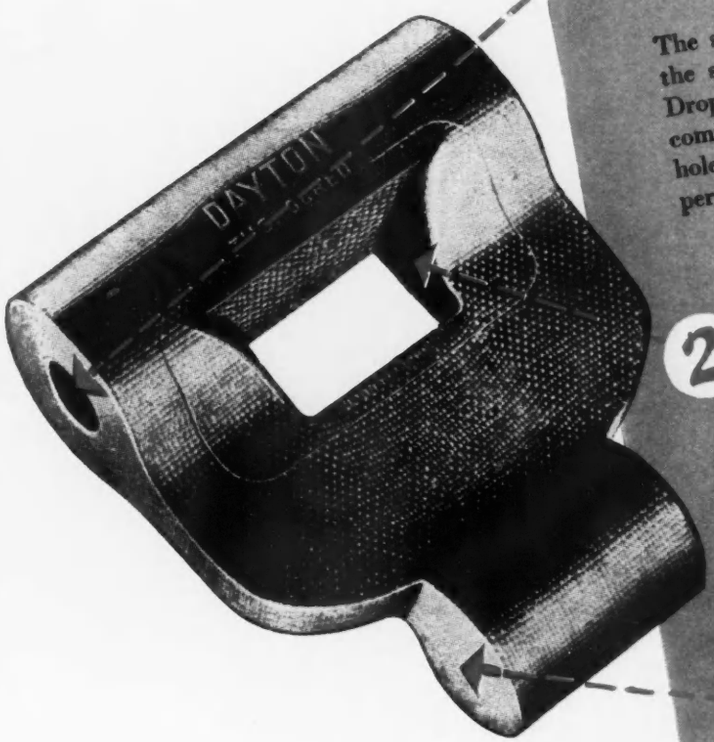
For more information about GEON please write B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio.

Geon
Polyvinyl Materials

B. F. Goodrich Chemical Company

A DIVISION OF THE B. F. GOODRICH COMPANY

You get All Three IN A DAYTON PICKER



1 Extremely hard bearing surface

The specialized rubber and fabric around the spindle hole of a Dayton Reversible Drop Box Picker forms an extremely hard composition bearing. Result—the spindle hole, instead of wearing egg-shape, stays perfectly round.

2 Softer around picker stick hole

The impact of picker meeting shuttle is cushioned by a softer composition around the picker stick hole. Result—less wear on the stick and on the picker. The arrow point rests on the line that forms the outer edge of this cushion.

3 Still softer at shuttle contact

This section where the picker contacts the shuttle is the softest composition of all three. Result—elimination of shuttle point loosening, greater assurance of a perfect throw throughout the life of the picker.

Dayton Reversible and Nonreversible Pickers, and all other Dayton textile supplies, outlast and outperform because *we know how to build into rubber products the precise properties called for by the kind of work they do.*

To get the complete story of Dayton textile products write today for our new Textile Catalog.

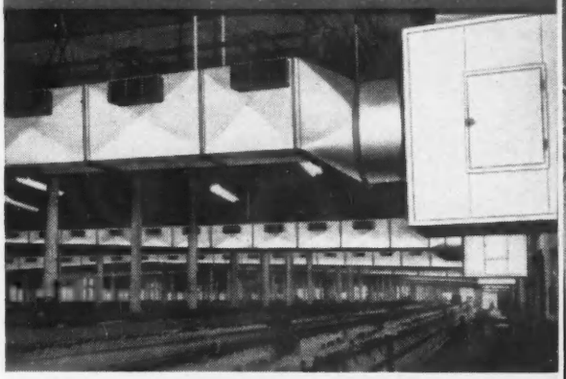
THE DAYTON RUBBER MANUFACTURING COMPANY
FACTORY: WAYNESVILLE, N. C.
MAIN SALES OFFICES: WOODSIDE BUILDING, GREENVILLE, S. C.

Dayton Rubber

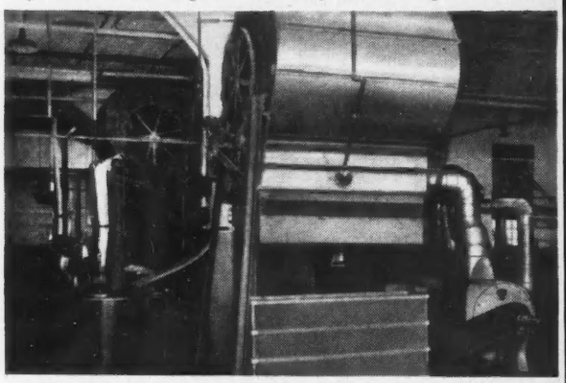
THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

FAMOUS DAYCO SYNTHETIC RUBBER PRODUCTS SINCE 1934

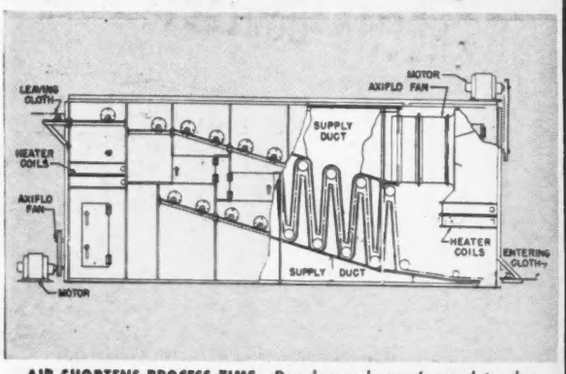
Other Ways Leading Mills Are Using Sturtevant Air Handling Equipment



AIR CONTROLS PRODUCT QUALITY—Sturtevant Evaporative Cooling System as installed in a leading southern mill. 18 Vap-air Blender Units with humidifier heads provide uniform, draftless air distribution, control both humidity and temperature to produce desired regain and to improve working conditions.



AIR ENDS A DUST PROBLEM—Sturtevant Dust Control System controls starch fly and lint on brushers and shearers in cloth room . . . saves on maintenance, time and manpower required for plant cleaning. Installation includes Multivane fans, Planing Mill Exhauster, plus cyclone collector outside of building.



AIR SHORTENS PROCESS TIME—Pre-dryer shown is used to dry goods partially before cloth enters the tenter frame, and for intermediate drying during processing. It saves time by replacing dry pans, permits careful control of heat and drying in handling lightly impregnated fabrics. Models available to meet your yardage-per-hour requirements.

HOW AIR AT WORK CUTS CONVEYING TIME

Hand trucking wool from scourers to storage bins was costly in both time and manpower in this woolen mill, until Sturtevant engineered a conveying system to do the job with air—and do it better, at lower cost. Now, washed fibers are blown through the duct work shown, from scouring room to storage at the other end of the mill. The "blow-through" system doesn't pass material through the fan, so fan blades can't chop the fibers. Result: natural length is maintained and a greater proportion of long stock is delivered to cards and combers.

Wherever air can be used to convey materials, Sturtevant engineers can show you how the saving in time and manpower alone can pay for the system many times over in a short period of time. Write for complete information.

HEATING • VENTILATING • AIR CONDITIONING •

DRYING • DUST AND FUME CONTROL • CONVEYING

STURTEVANT OFFERS TEXTILE MILL OPERATORS

14 Ways to Improve Production and Cut Costs with "Engineered Air"

TODAY, with so many other factors fixed or beyond your control, the one sure way of cutting costs in Textile Mills is to find new ways of doing old jobs—better and faster. That's why so many mills are using "engineered air." For there are no less than 14 ways that Sturtevant air handling equipment can help textile manufacturers to improve production and cut costs. How many of these systems can *you* use?

1. **Slasher Fans and Systems**
2. **Napper Exhaust Systems**
3. **Return Air Napper Exhaust Systems**
4. **Condenser Fans and Conveying Systems**
5. **Singeing Machine Exhaust**
6. **Cloth Cleaning Systems for Printing Machines**
7. **Vacuum Cleaning and Lint Removal**
8. **Unit and Central Heating Systems**
9. **Dyehouse Ventilation and Vapor Absorption**
10. **Evaporative Cooling and Humidifying Systems**
11. **Vap-Air Blenders for Present Humidifying Systems**
12. **Pre-heaters for Tenter Ranges and Naphthol Colors**
13. **Tenter Frame Dryers**
14. **Heat and Vapor Exhaust Fans and Systems**

A Sturtevant Engineer will gladly analyze your needs—without obligation. Just write the Sturtevant Branch Office nearest you, or: B. F. STURTEVANT COMPANY, *Division of Westinghouse Electric,* Hyde Park, Boston 36, Mass.

Sturtevant
Puts Air to Work

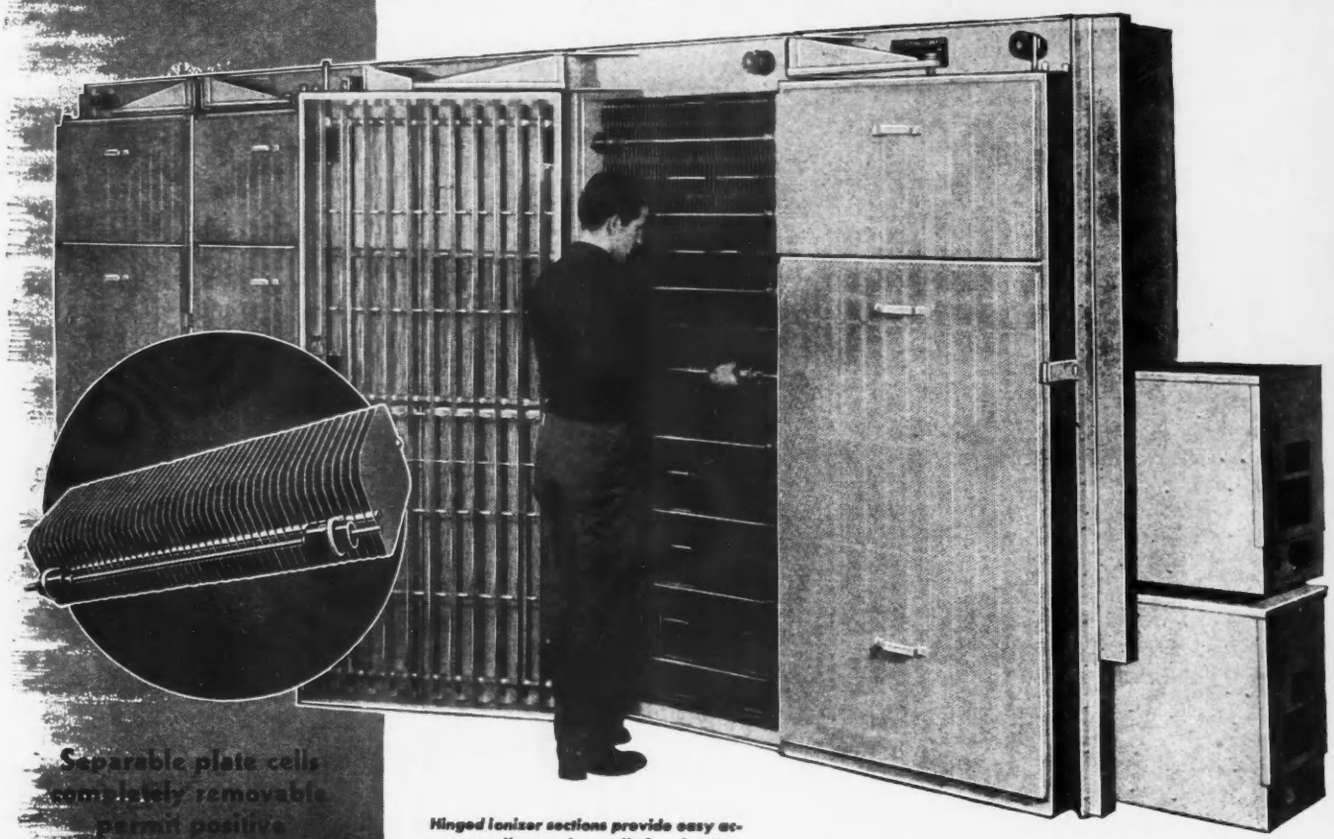
B. F. STURTEVANT COMPANY • DIVISION OF
Westinghouse
ELECTRIC

PRECIPITRON • MECHANICAL DRAFT

AAF

Electro · CELL

CELL TYPE *Electronic* PRECIPITATOR



Separable plate cells completely removable permit positive maintenance.

Hinged ionizer sections provide easy access to collector plate cells for cleaning.

HINGED, FULL HEIGHT IONIZERS

SEPARABLE COLLECTOR PLATES

SECTIONAL CONSTRUCTION

The Electro-Cell is an electronic air filter of new and unusual design that offers the advantages of sectional construction, removable collector plates, full-height hinged ionizers and totally enclosed high voltage wiring. These features, exclusive to the Electro-Cell, are developments of major importance because they simplify installation, improve performance, promote safety and offer a choice of maintenance methods.

The Electro-Cell filter is one of three electronic precipitators developed by this company to meet any requirement for super-clean air. Each type has distinctive advantages under certain operating conditions, and is the result of more than ten years of research and experimentation in the field of electronic dust control.

AMERICAN AIR FILTER COMPANY INC.

Louisville 8, Kentucky • 304 Central Avenue

In Canada: Darling Bros., Ltd. Montreal, P. Q.

Send for Bulletin 252 which gives the complete story

DO YOU KNOW
National Aniline and its predecessor companies were the first American dyestuffs producers to provide technical service through nearby laboratories.
Today National Aniline maintains a nation-wide network of Application Laboratories convenient to all principal textile centers. Their composite knowledge and skills on dyestuffs formulation and application may be helpful on your next difficult color match.
WHEREVER COLOR IS USED
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DIVISION OF
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET NEW YORK 6, N. Y.
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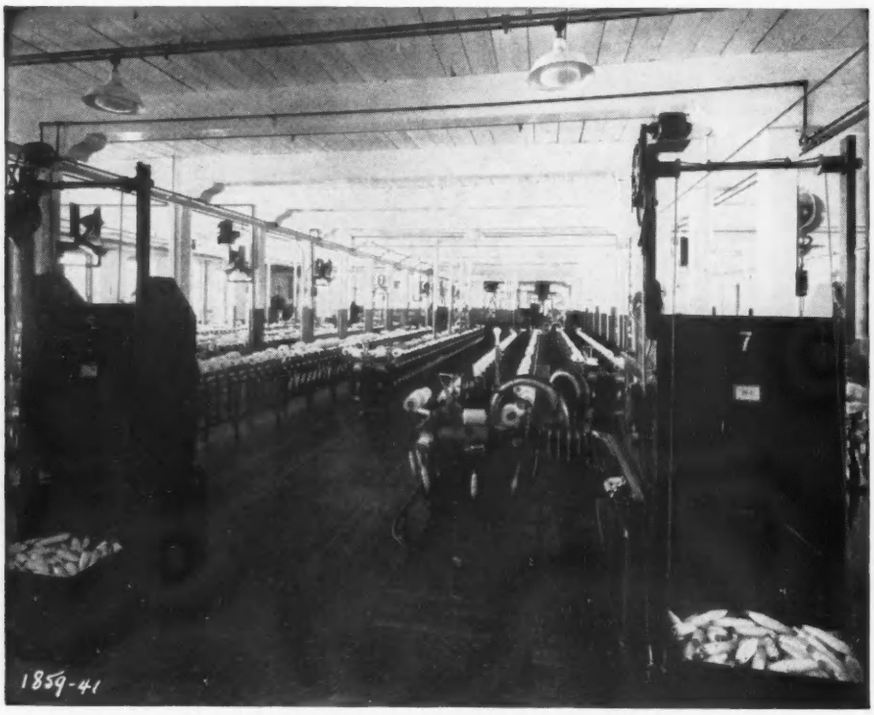
ABBOTT AUTOMATIC WINDERS



Winding Average hourly production per operator 900 to 1000 bobbins per hour

2-oz.	Bobbin	112 lb. hr.
3-oz.	"	169 " "
4-oz.	"	224 " "
5-oz.	"	280 " "
6-oz.	"	338 " "
7-oz.	"	380 " "
8-oz.	"	448 " "

These production figures are being obtained in mills throughout the United States and Canada, and show the lowest direct labor cost of winding.

In addition there is a great saving in floor labor to supply the winders with spinning bobbins and remove wound cones or cheeses.

Supply bobbins are dumped by the doffers into a box at floor level. A lever is pushed and the box is lifted and dumped automatically into a big hopper. These are large enough to eliminate any other storage of yarn. There is no trucking of yarn up and down winder alleys and distributing it along the machines. It is all fed in at one point. Similarly cones are all doffed at end of winder, and move directly into warper creels or to twisters or automatic quillers.

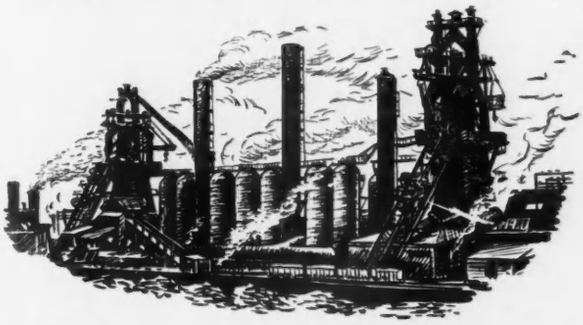
ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Representative, Mr. L. S. Ligon, Greenville, S. C.

"How many ways can Flintkote Save Money for our business?"

The diversified Flintkote line—processing as well as maintenance and construction materials—is now ready to save money for you in many ways. For example:



1 In Maintenance... Flintkote Hydralt* Coatings shield metal and concrete surfaces against rust and weather. Odorless and fire-resistant, they will not melt, crack or craze...after years of exposure. *Flintdek*† will provide non-slip surfacing floor areas. Flintkote Flooring Emulsions for quick repairs or renewals of worn areas.

2 In New Construction... Flintkote's Heavy-duty Mastic Flooring assures low installation costs, greater foot comfort, and a big saving in upkeep. This material is dustless, self-healing and...it stands up indefinitely under the toughest traffic conditions.

3 In Processing... Flintkote offers a wide range of materials for special uses in processing. These include Syntex* aqueous dispersions of rubbers and resins... synthetic rubber and resin latices and mixes for water-system cementing, impregnating, and coating...rubberized asphalt adhesives and sealers...and many others.

4 In Service... Right now, Flintkote Technical Representatives with a background of 45 years of research and experience, are ready to assist you in selecting and adapting the Flintkote processing or construction materials which will be best suited to your individual requirements . . . For further facts, call your nearest Flintkote office today.

*Reg. U.S. Pat. Off. †Trade Mark

Flintkote-Products for Industry

THE FLINTKOTE COMPANY · **INDUSTRIAL PRODUCTS DIVISION**

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SERVICE ALL THE WAY

OTIS MAINTENANCE FOR OTIS ELEVATORS

• Otis Maintenance extends all of the facilities and ability of the manufacturer directly to the buildings of Otis elevator owners.

To bring this service to your door, Maintenance operations are conducted by 245 local Otis offices, each adapted to the area it serves. These branch offices in turn have the benefit of progressive improvements in service developed by the facilities that produced more than half of the world's elevator equipment. Thus Otis Maintenance goes all the way to meet the convenience of the Otis elevator owner.

Few things you buy can so exactly fit your needs.

Maintenance by Otis, for Otis elevators, is available at a flat monthly rate through your local Otis Elevator Company office.

Otis ELEVATOR COMPANY

OFFICES IN ALL PRINCIPAL CITIES

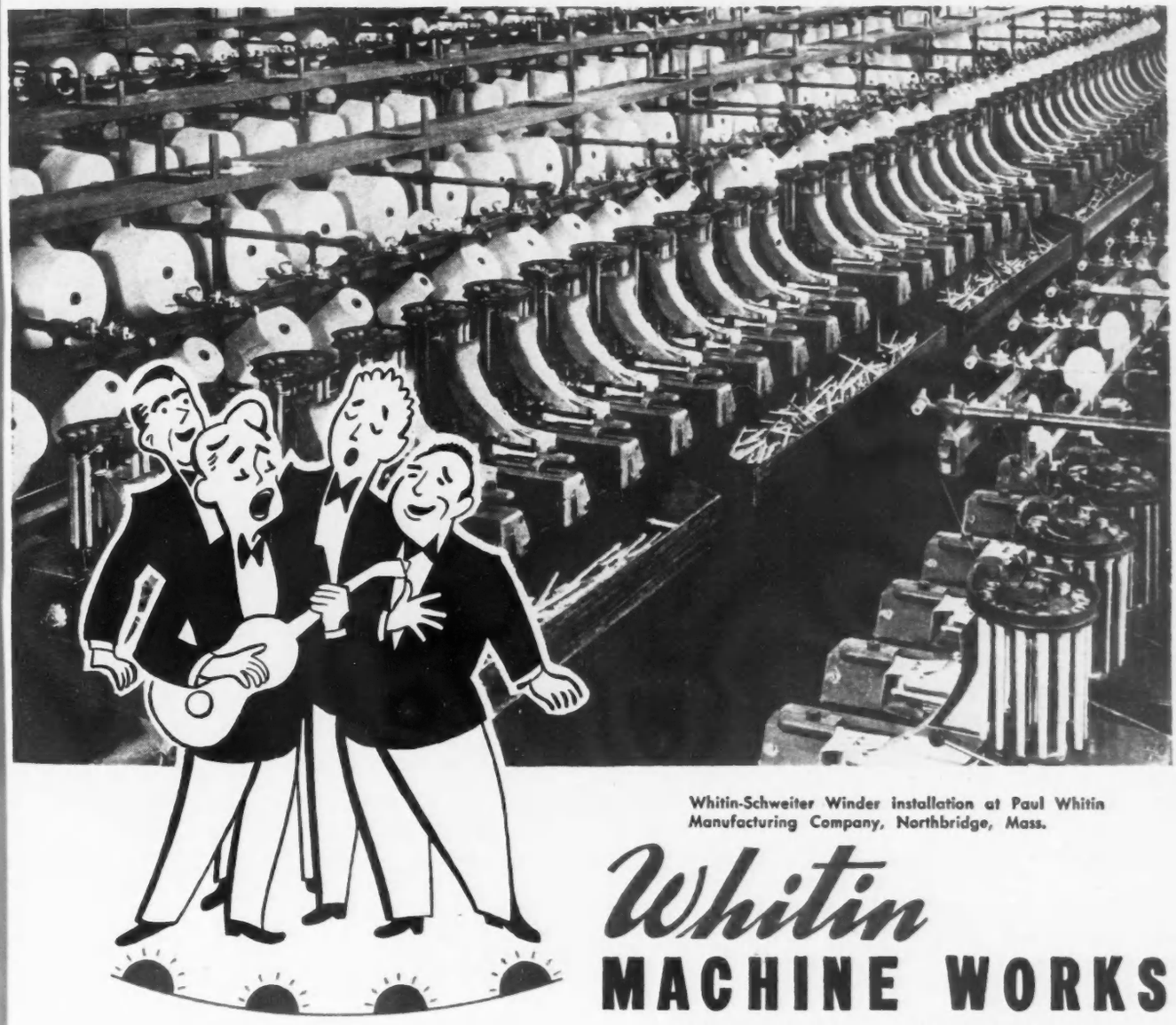
A BENEFIT PERFORMANCE .... *for Your Benefit!*

Based on the performance of Whitin-Schweiter Automatic Filling Bobbin Winders in hundreds of mills, under all conditions, we are convinced that an installation of these remarkable winders could definitely be to your benefit!

Their speed (3500 to 5000 RPM), their versatility (rewinds cotton, wool, worsted, rayon, plastics, etc.), their adaptability (winds on all types and sizes of bobbins up to 10 1/8") and general all-around operation has built up for them an enviable reputation among mill men. Repeat installations in mill after mill is definite proof of their acceptance.

Why shouldn't you also benefit by their performance?

Write for additional information or descriptive literature.



Whitin-Schweiter Winder installation at Paul Whitin Manufacturing Company, Northbridge, Mass.

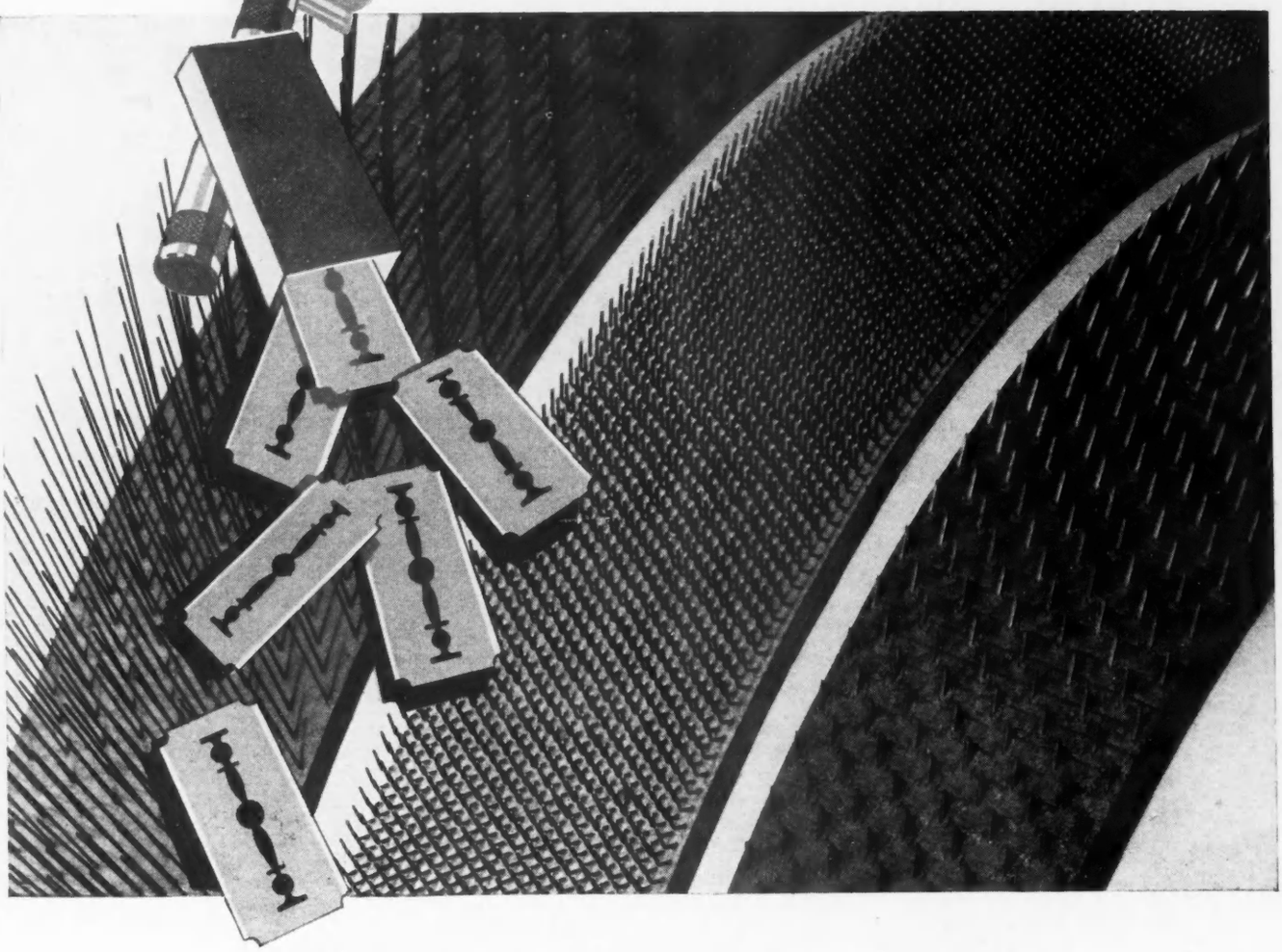
Whitin

MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. ATLANTA, GA.

A SAFETY RAZOR is no better than its BLADE



And a card is no better than its CLOTHING

Your face tells you that your safety razor needs a new blade, but the stock in a card can't complain about the condition or the suitability of the clothing you are using.

Eternal vigilance in the card room is your only guarantee of efficiency and Ashworth service men can be of great help to you in this respect. They know from experience which is the best clothing for the purpose. They can also, if you desire, inspect your cards at regular intervals, free of charge, and recommend a repair program which will involve minimum expense and minimum loss of productive time.

ASHWORTH BROS., INC.
AMERICAN CARD CLOTHING CO.
(Woolen Div.)

Fall River*†‡ Worcester*‡ Philadelphia*†‡
Atlanta†‡ Greenville†‡ Charlotte†‡
Dallas†‡ (Textile Supply Co.)

** Factory † Repair Shop ‡ Distributing Point*

PRODUCTS AND SERVICES:

Card Clothing for Cotton, Wool, Worsted, Silk Rayon and Asbestos Cards and for all types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Top Flats Reclothed.

Ashworth PIONEERS IN CARD CLOTHING

3 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS

You Get a Complete *Selection* of

DRIVING SURFACES

in

MANHATTAN

RUBBER TRANSMISSION BELTS

Manhattan offers a complete range of special surfaces on the driving side of transmission belts to meet all the needs of industry. These are all available in Manhattan's patented Compensated Belt with ply-stresses equalized.

STYLE H - HYCOE DRIVING SURFACE -

Best low-tension operating surface available for general service. The accompanying graphs and list of 7 advantages show how the Manhattan Hycoe Surface contributes to belt, bearing, and power economy.

Advantages

1. Less bearing, shafting, and hanger troubles
2. Operations less affected by atmospheric conditions
3. Higher overload capacity or margin of safety
4. Less wear on pulley side
5. Can be dressed without injury to the belt
6. High production efficiency
7. Material reduction in belting costs

STYLE F - FRICTION SURFACE -

Designed for heavy drives where a slight amount of starting-slip only is not detrimental. Also practical in extremely dusty surroundings or where there are chips, grit, or other foreign substances present.

STYLE B - BAREBACK SURFACE -

Untreated duck surface for drives where slip is necessary, as on the various take-ups on rolling operations, loom winding, paper take-up machines and on automatic stops and shifter drives.

STYLE BB - BAREBACK BOTH SIDES -

Designed for special conditions where slip is necessary on both sides, as for feed belts on tractor and small steam saw mills.

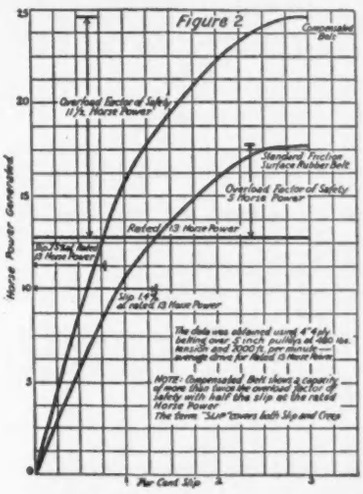


Figure 2
Compensated Belt
Overload Factor of Safety 1½ Horse Power
Standard Friction Surface Rubber Belt
Overload Factor of Safety 2 Horse Power
Rated 13 Horse Power
No Slip at Rated 13 Horse Power
Slip 1½% at rated 13 Horse Power
Horse Power Generated
Per Cent. Slip
The data was obtained using 4"4 ply belting over 5 inch pulleys at 480 lbs. tension and 3000 ft. per minute — average drive for Rated 13 Horse Power
NOTE: Compensated Belt shows a capacity of more than twice the overload factor of safety with half the slip at the rated Horse Power
The term "Slip" covers both Slip and Creep

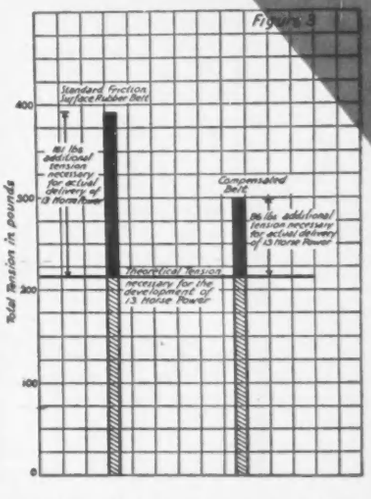


Figure 3
Standard Friction Surface Rubber Belt
All the additional tension necessary for actual delivery of 13 Horse Power
Compensated Belt
All the additional tension necessary for actual delivery of 13 horse Power
Theoretical Tension necessary for the development of 13 Horse Power
Total Tension in pounds

Figs. 2 and 3—Show the performance characteristics of Condor Compensated Belt with Hycoe Surface on pulley side compared with those of standard rubber belt.

CONDOR COMPENSATED BELT (Manhattan's patented belt with Equalized Ply Stresses) is furnished with Style H Surface, unless otherwise specified.

CONDOR STANDARD and other **BELTS** are made with Style F Surface regularly.

CONDOR WHIPCORD ENDLESS BELTS are made with Style F Surface, unless otherwise specified.

Manhattan also makes *Non-Spark, Oil-Proof* and Acid-Proof belts—For complete service from a single source. **USE MANHATTAN BELTING.**

Manhattan belts will be made in the red color when again possible.

RAYBESTOS-MANHATTAN, INC.

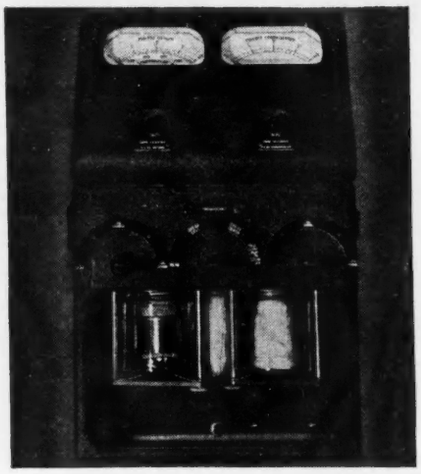
MANHATTAN RUBBER DIVISION

EXECUTIVE OFFICES AND FACTORIES PASSAIC, NEW JERSEY

COMBUSTION EFFICIENCY

Correct Fuel Distribution in Firebox Cuts Boiler's Coal Need 15%

PATENTED, PRECISION INSTRUMENT INSTANTLY ANALYZES COMBUSTION GASES



"A check on a boiler in a customer's* plant at Niles, Michigan, demonstrated how the Cities Service Heat Prover shows the fuel saving possible when the boiler is operating efficiently.

Lubrication Engineer's Report

"On most under-feed stokers, there is greater depth of burning coal over the retort—leaving the sides and end of the grates with a thin layer of coal. This thin layer of hot coal soon burns through in spots leaving holes in the fire so that the grates are not covered entirely with coal. These bare spots on the grates allow the air to circulate through the firebox without coming in contact with the burning coal, thus increasing the stack temperature with attendant loss of combustion efficiency.

Grates Evenly Covered

"At intervals of thirty minutes, we took a poker, pushed the hot coal from the center, covering the holes and edges of the firebox with coal so that every part of the grates was covered. This registered highest efficiency on the Heat Prover dials.

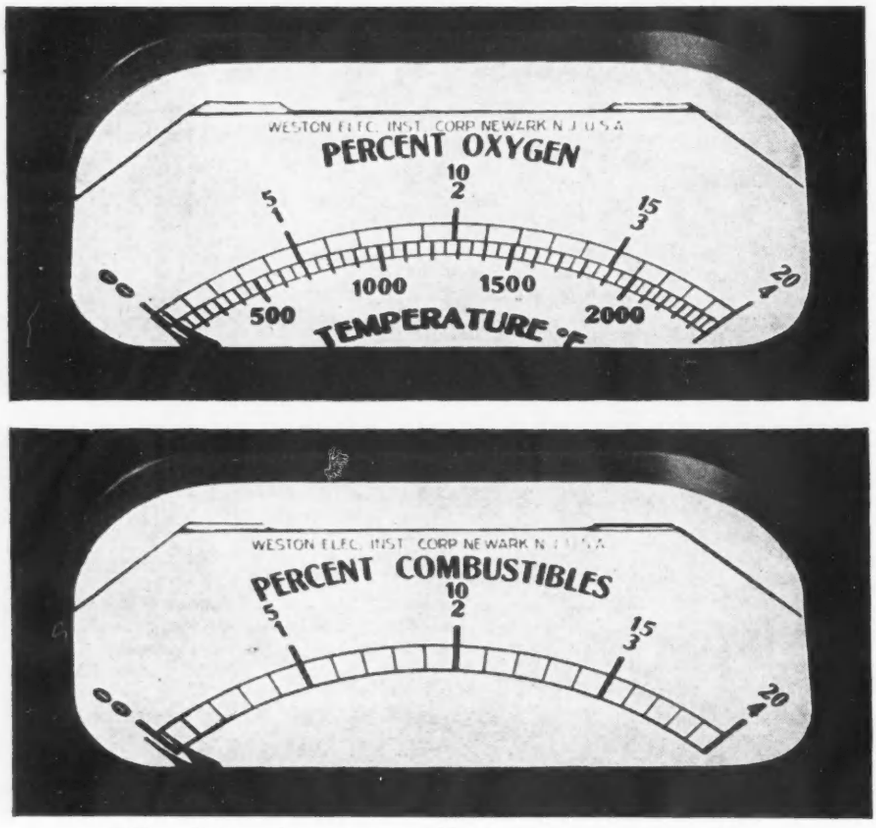
Fuel Cut 3000 lbs. Daily

"This boiler was using 18,000 pounds of coal a day and by covering the holes in the fire every thirty minutes, daily consumption was reduced 3,000 pounds a day or a saving of about 15% to 17%."

Heat Prover Service Available

The Heat Prover is a portable combustion gas analyzer patented by Cities Service and operated by trained Cities Service engineers. It is used to check efficiency of every type of fuel combustion equipment. For information call your nearest Cities Service branch office, (Arkansas Fuel Oil Co., in the South); or write to Cities Service Oil Company, Sixty Wall Tower, New York 5, N. Y.

**Name on request.*



These dials on the compact portable Heat Prover instantly register an analysis of flue gases.

CITIES SERVICE OILS
ONCE-ALWAYS

FOR EVERY LUBRICATION PROBLEM CALL Cities Service FIRST!

LAWRENCE SPINNA CALF

. . . the most generally used calfskin

For fine spinning no other roll covering material takes the place of calfskin . . . and among those mills that have built a reputation for quality, Lawrence's Spinna Calf is the brand most generally used . . . Spinna Calf has exactly the right surface for smooth, sure drafting. It is non-sweating. It holds its shape and "body". It can be depended upon for unvarying quality. Tell your roll coverer you want Spinna—preferred by so many of the quality spinners . . .

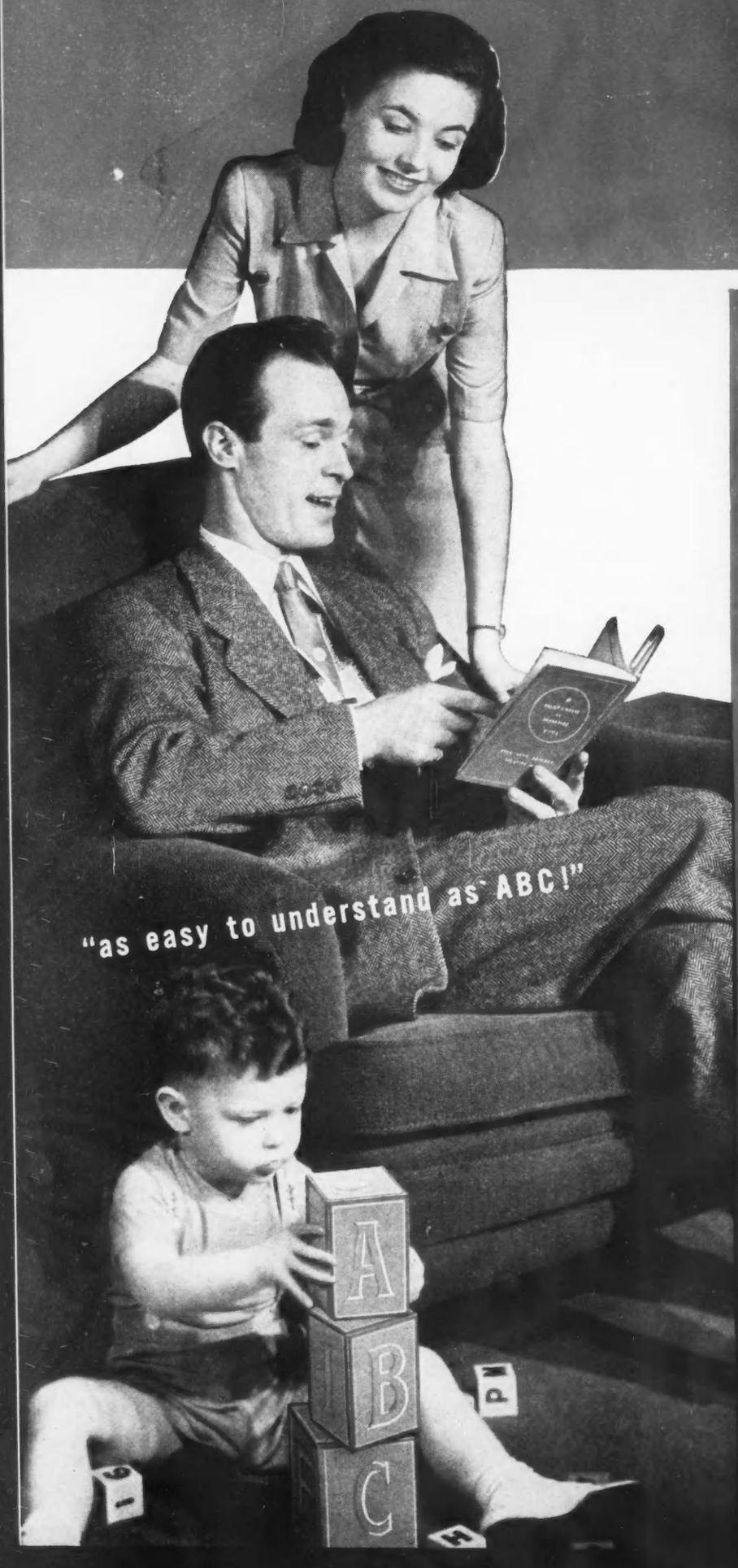
A. C. Lawrence Leather Company, Peabody, Mass., manufacturer of Lawrence Calfskins—*1st choice for aprons.*

Represented by H. H. Hersey, Greenville, South Carolina.

A. C. LAWRENCE LEATHER CO. TEXTILE LEATHERS PEABODY MASS

EVERY YEAR MORE PEOPLE DECIDE LEATHER IS BEST

How EMPLOYERS MUTUALS make



Why

Employers Mutuals of Wausau Make Insurance Understandable

Without understanding, the buyer of insurance has no way of knowing which risks might result in financial loss, nor how great that loss might be. With understanding, he can judge whether he is fully covered by his insurance, or may even discover that he is carrying more insurance, at higher cost, than is actually necessary.

The informed buyer, moreover, becomes a preferred risk for the insurance company. And the more preferred risks a company insures, the fewer losses it must pay—which automatically lowers the cost of insurance.

Employers Mutuals are interested in lower insurance costs, because Employers Mutuals are wholly owned by policyholders and operated for the benefit of the policyholders.

For these reasons, Employers Mutuals of Wausau believe that extending their effort to make insurance understandable will benefit themselves, the buyer of insurance, and the entire insurance field.

WHAT EMPLOYERS MUTUALS OF WAUSAU WRITE:

Public Liability . . . Automobile . . . Plate Glass . . . Burglary . . . Workmen's Compensation . . . Fidelity Bonds . . . Group Health, Accident, Hospitalization . . . and other casualty insurance . . . Fire . . . Tornado . . . Extended Coverage . . . Inland Marine . . . and allied lines of insurance. All policies are nonassessable.

Branch offices in principal cities throughout the country. Consult your telephone directory.

LS OF WAUSAU

nsurance Understandable

ployers Mutuals of Wausau, like st buyers of insurance, have al- ys recognized the importance of derstanding insurance because of serious financial loss that may ise from lack of understanding.

Many of Employers Mutuals activities nd much of the time of their repre- ntatives are devoted to an effort to ake insurance understandable. To rther this effort, Employers Mutuals e now embarking on a new and oader program through their ad- rtising and through the publication an Insurance Dictionary.

he first step in understanding any bject is knowing the exact meaning of terms used to explain that subject. For the first time in the history of insurance, over 200 insurance terms have been brought together in one book. Legal phraseology, required to make the contract legally binding, is replaced by an explanation in simple, concise English, as easy to understand as A B C. The definition is followed by an example of a specific use of the term in insurance.

To spread the understanding of insurance even more widely, Employers Mutuals are preparing a series of advertisements, to appear in this magazine, which will feature definitions taken from the new Dictionary.

For Example, WHAT IS A "COMPREHENSIVE POLICY"?

ere is the definition from the new ictionary of Insurance Terms:

omprehensive Policy: An insurance olicy which covers, under one in- ring agreement, all hazards within e general scope of the policy, ex- pt those specifically excluded.

ample: A standard basic Automo- bile Liability Policy covers you against loss resulting from the use of certain specified automobiles. A "Comprehen- ive" Automobile Liability Policy cov- rs you against claims which may result from the ownership. maintenance, or use of any automobile.

Perhaps, on the basis of this definition, it would pay you to look over your policies once more to see if you have the "comprehensive" coverage you should have.

The Employers Mutuals representative can give you a complete analysis of your present coverage. Such an analysis often reveals risks that are not covered. Many times it shows duplicate coverage that entails needless expense.

Take advantage of this free service—it will not obligate you in any way.

Free!

A Dictionary of Insurance Terms

How to Understand Insurance and Buy It Intelligently

If you need the protection of insurance, you need to understand insurance in order to buy it intelligently. Here, for the first time in the history of insurance, is a clear, concise explanation of insurance terms in simple English as easy to understand as A B C. No legal phraseology. No "technical" language. Examples demonstrate the application of the terms to specific cases.

It is yours—FREE! Write today for the new "Dictionary of Insurance Terms." Your copy will be sent as soon as it is off the press. **Address: Insurance Information Bureau, Employers Mutuals of Wausau, Wausau, Wisconsin.**

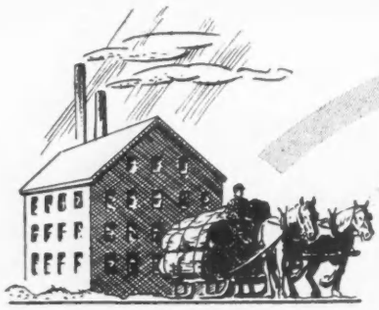
EMPLOYERS MUTUALS OF WAUSAU

make Insurance Understandable

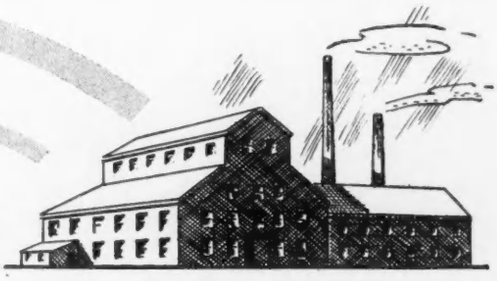
EMPLOYERS MUTUAL LIABILITY INSURANCE COMPANY OF WISCONSIN

EMPLOYERS MUTUAL FIRE INSURANCE COMPANY

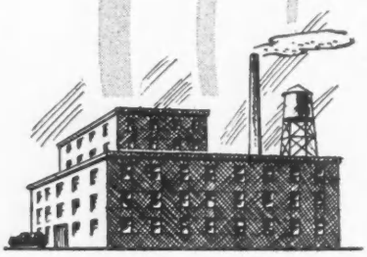
Home Office: WAUSAU, WISCONSIN



WILLOUGHBY, VT.
in the Northern hardwood stands
LOGGING AND ROUGH STOCK



LAWRENCE, MASS.
in the New England textile area
SHUTTLES, BOBBINS, SPOOLS



JOHNSON CITY, TENN.
centering the Southern hardwood forests
CARD ROOM BOBBINS, SKEWERS

GREENVILLE, S. C.
in the heart of the textile South
AUTOMATIC LOOM AND WARP BOBBINS

What we mean by *all-'round* production facilities

The U S sales engineer who calls on you is backed up by not *one*, but *four* production centers strategically located to serve any mill anywhere in the "textile territory", North or South.

That means ample plant capacity to handle any size orders, to give them the attention of qualified specialists. It also means complete production within the U S organization – *complete* control of every step of the manufacturing process from forest to your frames, from logging to your looms.

Tell a U S representative your requirements, and he'll match this unequalled manufacturing capacity to your needs – ordinary or extraordinary – for equipment that will lower costs and improve quality, whether you need Bobbins, Shuttles, Cones, Rolls, Spools, or Skewers.

U S BOBBIN & SHUTTLE CO.

PROVIDENCE, R. I.
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CHICAGO AGENT:
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LAWRENCE, MASS.

CANADIAN AGENT:
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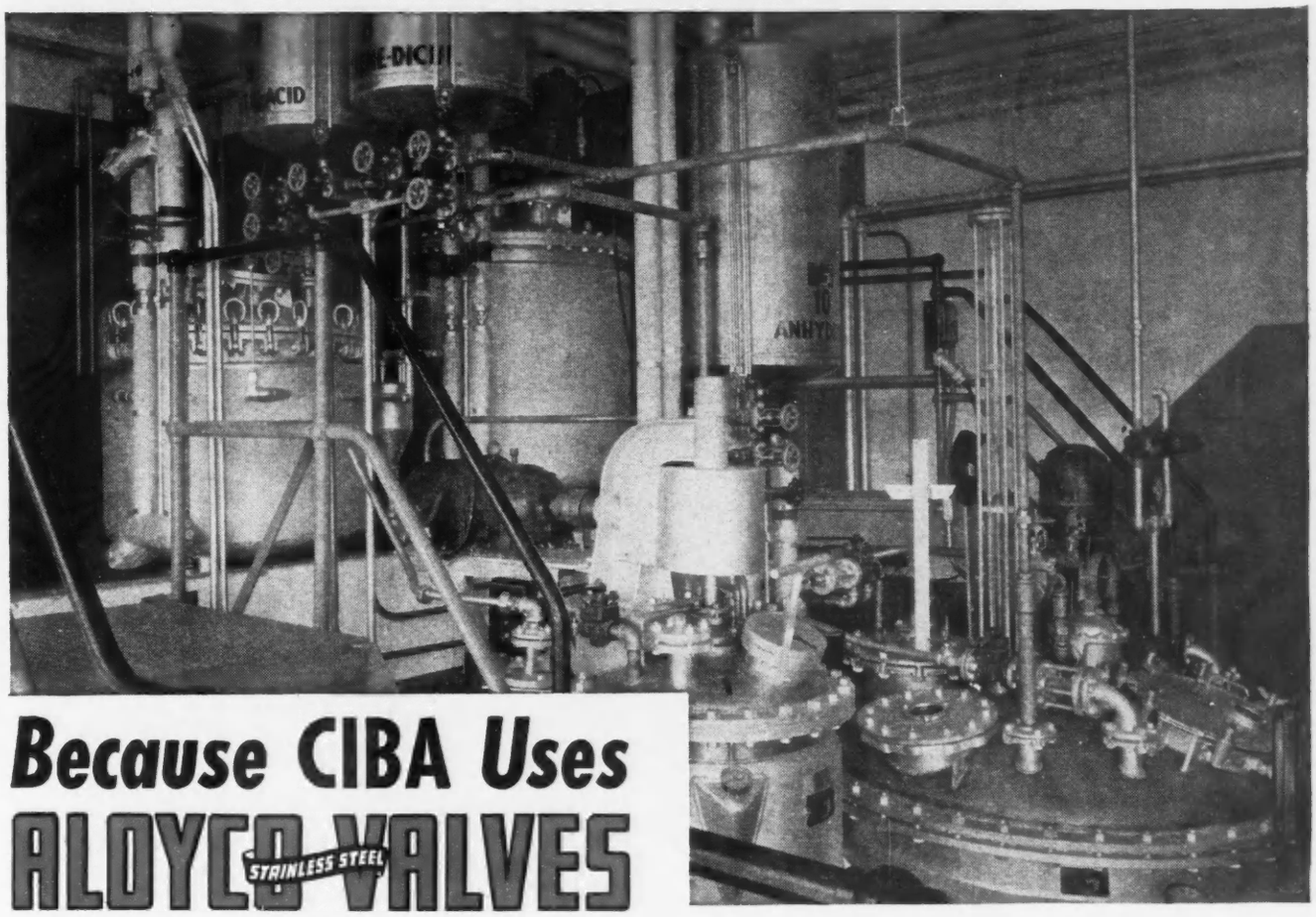
JOHNSON CITY, TENN.
CHARLOTTE, N. C.
ALABAMA AGENT:
Young & Vann Supply Co.
Birmingham

THE SEAL OF QUALITY AND SERVICE SINCE 1857
US
ESTABLISHED 1857

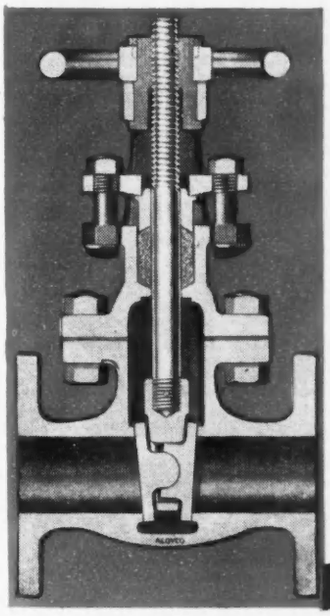
NO CONTAMINATION HERE



Because CIBA Uses
ALOYCO STAINLESS STEEL VALVES

HORMONE and vitamin concentrates are precious! Batches, often worth $5,000, must be protected against metallic contamination. Delicate processes must not be upset by valve failures. So Ciba Pharmaceutical Products, Inc., Summit, N. J., specifies Aloyco Stainless Steel Valves.

These valves are contamination-proof because they are made entirely of alloy. The uniform corrosion-resistance of these alloys is assured by carefully controlled analyses. To provide easy, positive action, Aloyco Valves are accurately machined with super-finished seating surfaces. In addition, they are designed for quick disassembly—a necessity where valves must be inspected, cleaned, and sterilized; as in beverage, food and pharmaceutical plants. Long in service life, Aloyco Valves well merit what W. Bluntschli, Chief Engineer of Ciba, says of them, "We have found that the maintenance of these valves, and we have hundreds of them in different sizes in the departments mentioned, is practically nil under the corrosive mixtures of chemicals and solvents they handle."



ALOYCO DOUBLE DISC WEDGE Provides Positive Closure That Protects Ciba's Processes

Discs are free to rotate, non-fouling in any position. The flexibility of this design assures pressure tightness on both seats and affords easy repairs in user's own shop.

ALOYCO

STAINLESS STEEL VALVES AND FITTINGS

GATE, GLOBE, Y, CHECK, TANK, SAMPLING AND V-PORT VALVES
SCREWED, FLANGED AND WELDED FITTINGS

ALLOY STEEL PRODUCTS COMPANY, INC.

1304 WEST ELIZABETH AVE. • LINDEN, N. J.

FOR LOW POWER CONSUMPTION

LILY WHITE OILS ON SPINDLES

REDUCTION of power costs results from use of the right spindle oils, properly applied. SINCLAIR LILY WHITE OILS are finely finished lubricants possessing high stability characteristics to resist deterioration . . . increased body and deposits . . . during service. Use of the proper grade assures *continuous* low power consumption because there is no increased friction drag to cause power loss.

BESIDES contributing to low power consumption SINCLAIR LILY WHITE OILS help reduce maintenance cost by promoting long bolster life. Their worth was proven in many plants during the war years when mills were operating at top capacity and replacement parts were difficult to obtain. LILY WHITES come in viscosities to suit all operating speeds. Our lubrication counsel is available in solution of your problems.

SINCLAIR TEXTILE LUBRICANTS

FOR FULL INFORMATION OR LUBRICATION COUNSEL WRITE SINCLAIR REFINING COMPANY, 630 FIFTH AVENUE, NEW YORK 20, N. Y.

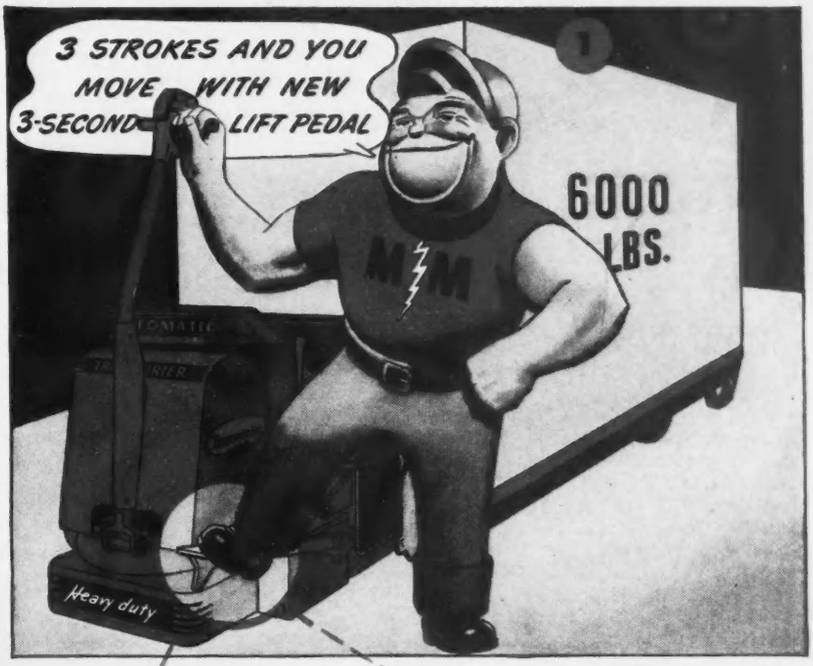
Amazing New Postwar Transporter Lifts Loads Faster... *Moves Loads Easier!*

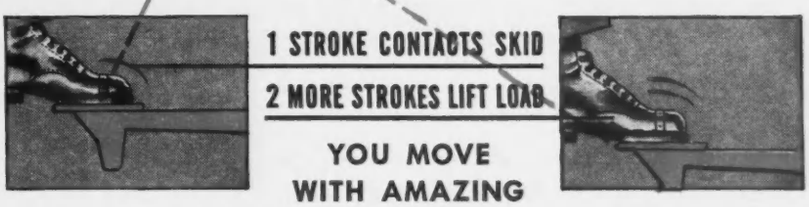
Adds New Efficiency, Longer Life to Miracle Electric Truck

Yes, you get more—much more in the amazing NEW, POSTWAR TRANSPORTER—the miracle electric truck long famed for cutting handling costs in half and taking the work out of every material moving job.

Astounding new money, time and work saving features have been added. Developments that lift loads faster, move them easier, give longer life and greater efficiency to a unit already noted for energy-saving performance.

With practically everything new but the hardware, the features below only highlight what you will get in the 1946 Transporter. Send the coupon. Get *all* the facts, before you decide on any motorized hand truck.





"TOUCH-OF-YOUR-THUMB" EASE, *says...* "*MUSCLE MIKE*"

The new 3-second Lift Pedal contains two pistons or cylinders, the high pressure (low speed) cylinder being housed inside the low pressure (high speed) piston. Both cylinders are actuated by the cam when the foot pedal is depressed. One stroke of the foot pedal is all that is required to engage skid.

When load resistance is encountered, the fluid from the larger or low pressure cylinder by-passes back into the reservoir, and the high pressure cylinder is employed to raise the load. So the first stroke of the foot pedal engages the load, and two more strokes raise the load sufficiently to move.

2 EASY TO GET AT POWER UNIT

Changes in design have been made, so that all parts of the power unit are easily accessible. The wiring system has been simplified, and component parts compactly placed where they can be reached easily for lubrication, and inspection.

3 NEW SAFETY BRAKE

Complete "dead-man" control is assured by a double shoe external contracting type larger diameter brake, which provides four to five times more braking effort. This gives you a Positive Mechanical Brake more efficient and safer the instant control handle is released to upright position.

FOOT PEDAL HINGES BACK FOR SHORTER TURNING RADIUS

To provide a shorter turning radius, the foot pedal is hinged back when not in use for lifting.

4 Double-Pitch Reduction Chain Drive Prolongs life of unit.

5 New Magnetic Contactor Utilizes Silver Alloy Tips to give ten times more life.

6 Carbon Brushes in Commutator Type Collector Ring Replace Copper Fingers to eliminate lubrication, increase wearing quality.

Approved by Underwriters' Laboratories, Inc.

Transporter
A PRODUCT OF AUTOMATIC
Lightens LIFE'S LOADS

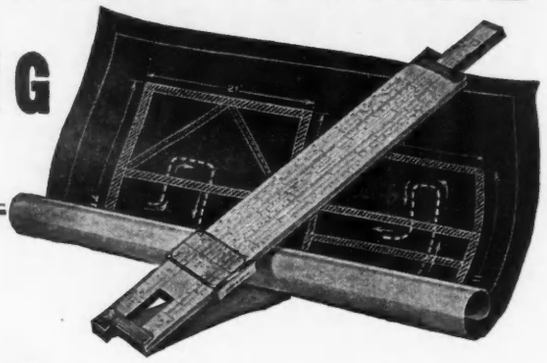
AUTOMATIC TRANSPORTATION COMPANY
Div. of The Yale & Towne Mfg. Co.
97 West 87th St., Dept. K, Chicago 20, Illinois

Please mail me without cost or obligation, complete facts about the NEW Postwar TRANSPORTER.
( ) Have an A. T. C. Specialist call and survey my material handling costs.

Company Name.....
By.....Position.....
Street Address.....
City.....State.....

LOOK TO THE LEADER FOR ALL THAT'S NEW

OVEN ENGINEERING NEWS



Safety IS First In All IOE Installations

Absolute Safety, secondary only to production

The Industrial Oven Engineering Company believes that production can reach its maximum only when the safety of personnel and equipment parallels in importance, any production objective.

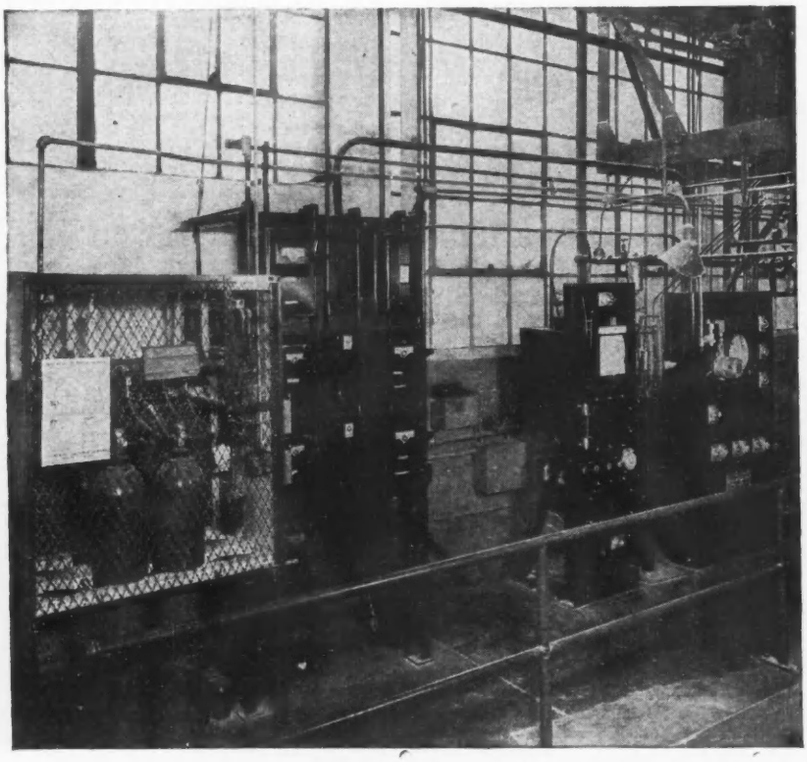
Here is an illustration of a four-panel group of safety devices. Although the illustration covers a coated fabric system, the same basic engineering considerations are typical of all **IOE** explosive installations. Here's how they work; here's how they protect men and machines.

Starting from your left, the first wire cage panel is a Carbon Dioxide fire control unit in case of a quick temperature increase, which produces a sudden discharge of CO_2 into the enclosed oven volume work space, and along the paths of material travel.

The equipment consists of fully automatic, heat-actuated releases positioned in strategic locations in the dryer equipment. Fire is almost immediately smothered out before it has a chance to do damage.

Panel No. 2, second to the right, is an AC service panel. On this panel are all the motor controls, disconnecting switches, voltage protectors, and other equipment essential to the control of the electric power system.

Panel No. 3 is a "tattletale" unit giving visible, continuous, record of the concentrations of the explosive mixtures and vapors at multiple points throughout the drying system. Explosive gas samples are thermally appraised for explosive content, and the results are continuously recorded for absolute operational evidence. The continuous analyzer—as this unit is called—is interlocked into the system and is equipped with audible and visible danger enunciators.



Panel No. 4, last in line to the right, is the explosion-proof temperature and main operating panel; combining all the operating stations necessary to give single station operating control to the unit. It consists essentially of recording temperature control at several places throughout the drying oven. In addition to this multi-point control, panel-type enunciator lights give visible notification of the operating condition of the unit. Push-button control of all motors, valves, accuators, and relays, incidental to the system's safe operation are incorporated in this board.

Yes, safety is essential. Without it production lags. All Industrial Oven Engineering installations are designed to eliminate the hazards of explosion and mechanical failure.

WE MAKE: Cord Coating, and Cable Lacquering Systems • Complete Fabric Cementing Systems • Continuous Takeup and Payoff Stands • Dip Tanks • Drying Ovens • Creel Rooms • Constant Speed, Constant Tension, Extrusion Takeup Machines for Plastic Resin Hose, and Coated Cords • Rubber Tubing, V-Belt Cord and other continuous Materials

Write for "Blueprint for Industry—Part III" gives full engineering information on the **IOE** *constant-speed, constant-tension windup machine for all continuous materials. FREE.*

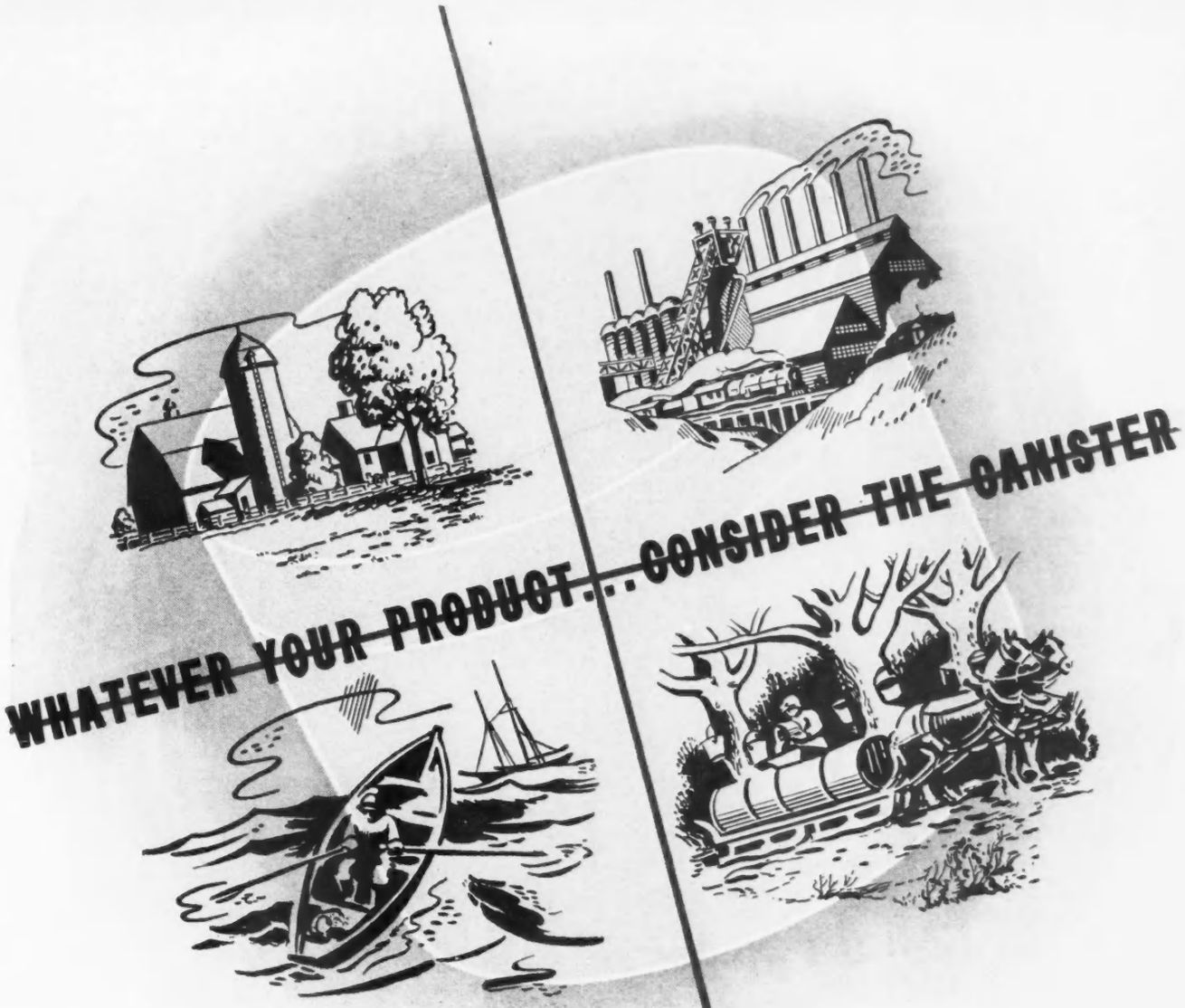
(This is Number 26 of a series. Reprints of previous advertisements sent on request.)

ENGINEERING **IOE** VERSATILITY

THE INDUSTRIAL *Oven Engineering* COMPANY

13825 TRISKETT ROAD, CLEVELAND 11, OHIO

★ ASSOCIATED COMPANY: JAMES DAY MACHINERY LTD., LONDON, W. 1, ENGLAND ★



From the handling of varied products of farm, forest and factory — to the safe and salable shipment of fancy fillets — there is a canister for every use. Utilizing the strongest structural form (other than the sphere) the canister can "take it" and deliver! Lined, or impregnated for moisture resistance — printed, or covered with decorative paper for sales appeal — the canister combines a distinctive, identifying shape for your product, with down-to-earth strength and adaptability. Whether you pack marjoram or maple sugar — talcum or taffy, you'll save with safety by using the canister . . . proven in war — preferred in peace.

Write today for completely illustrated NEW DESIGN FOLDER, to Old Dominion Box Company, Inc., Dept. 19, Charlotte, North Carolina.

OLD DOMINION *Box Company Inc.*

PLANTS LOCATED THROUGHOUT THE SOUTH
NEW YORK REPRESENTATIVE
228 EAST 45th ST., NEW YORK 17, N. Y.
Phone Mu 2-6492

CHARLOTTE • N. CAROLINA

PRECISION BUILT PAPER BOXES AND PACKAGING MATERIAL

ANOTHER DAN RIVER RESEARCH PROCESS

PROCESS OF TREATING TEXTILE MATERIALS

United States Patent No. 2,334,199
Issued to Harley Y. Jennings, Nov. 16, 1943
(Also Known as Resin-Pigment Dyeing Process)

This is an improvement on the Bartell Patent, No. 2,097,012, both processes being controlled by Riverside & Dan River Cotton Mills, Inc., Danville, Virginia.

THE INVENTION AND ITS OBJECT

For the information of the textile industry, and particularly for the information of those units of the industry engaged in the coloring and dyeing of textile materials, we quote, in part, from the patent papers, as follows:

"This invention relates to processes of treating textile materials and particularly to the art of coloring textile fibers and objects made from such fibers.

"The invention contemplates the fixing or setting of a dyestuff on a fabric or textile material by means of a water-insoluble resinous substance which substance is dissolved in a suitable solvent. The dyestuff used may likewise be soluble in the solvent for the resin or it may comprise an insoluble pigment, but in any event it should be water-insoluble.

"In order to insure a maximum degree of penetration and to use a minimum amount of solvent, the invention contemplates the formation of an oil-in-water emulsion in which a solvent containing dissolved resin and coloring matter constitutes the inside or disperse phase. In order to form an emulsion of this type, the solvent used should be insoluble in water.

"A sufficient quantity of water is used to make the emulsion relatively thin, so that the fabric or other material to be dyed may be passed through a padding bath comprising the oil-in-water emulsion. In passing through the bath the fabric, because it is more readily wet by the organic solvent than by the water, is penetrated by the solvent droplets containing the dissolved resinous substance and coloring matter and is then dried, leaving a film of coloring matter and resinous substance around the individual fibers which comprise the textile material. The resinous substance serves not only to bind the coloring matter to the fibers in a smooth substantially continuous film, but also serves as a finish for the treated material, so that I accomplish the usual dyeing and finishing steps in a single operation with a resultant saving in time and labor.

"By a judicious selection of resins the finish so applied may be permanent as regards washing and dry cleaning with the usual solvents, and may also impart added wear to the fabric, by offering an additional surface against abrasive wear.

"As both the resinous substances and the coloring matter are water-insoluble, the treated material may be subjected to repeated washings without affecting the 'hand' or appearance of the material. The coloring matter, bound to the material by or as a part of the dry film of resinous substances, is fast and permanent."

Claims Nos. 2, 3 and 4 are quoted by way of example, of the six claims of this patent, as follows:

2. "A solid-colored textile material comprising a fabric having discrete fibers, and means substantially covering the discrete fibers to color the same, said means comprising a thin substantially continuous film of resinous substance containing coloring matter, the material being, to the naked eye, of a uniform color and appearance, substantially identical with the product of claim 4.

3. "The art of treating textile materials having discrete fibers which comprises dissolving a water-insoluble resinous substance and an oil-soluble dye in a volatile organic solvent, incorporating in such solution water to produce a relatively fine oil-in-water type emulsion in which the tiny droplets of organic solvent containing dissolved resinous substances and dye comprise the disperse phase, the consistency of the solution being such that the liquid will enter the capillary spaces of the textile material, subjecting the material to said emulsion whereby the droplets of organic solvent containing dissolved resinous substance and dye are absorbed by the textile material due to the high affinity of the organic solvent for the textile material, and then evaporating the organic solvent to leave the resinous substance and dye as a thin film on the discrete fibers of the textile material.

4. "The art of treating porous textile materials having discrete fibers comprising as a step, applying to discrete fibers of the structural yarns of the fabrics an aqueous dispersion of water-insoluble resin, water-insoluble coloring matter and water-insoluble organic solvent for the resin, the consistency of the dispersion being so thin as to leave said interstices open, the organic solvent being of a nature as to carry the dispersed resins and coloring matter into the capillary spaces of the material, and drying the material to leave a thin coating of resin and coloring matter around the discrete fibers without materially affecting the porosity of the material."

STATUS OF THE INVENTION DURING THE WAR PERIOD

Under the contract entered into by Riverside & Dan River Cotton Mills, Inc., with the United States Government during the period of the late war, the patent herein referred to was specifically designated by its number (2,334,199) as being among those to which Riverside & Dan River Cotton Mills, Inc., granted "releases and royalty-free licenses to the Government to practice the inventions secured by their patents and applications for patents."

Hence, during the period of the war, the assignee of this patent, Riverside & Dan River Cotton Mills, Inc., gave no public notice of its exclusive rights to this process.

By its terms this contract with the Government terminated "on the date six months after the cessation of hostilities in all wars in which the United States is now engaged." Accordingly, this contract with the Government expired as of March 2, 1946.

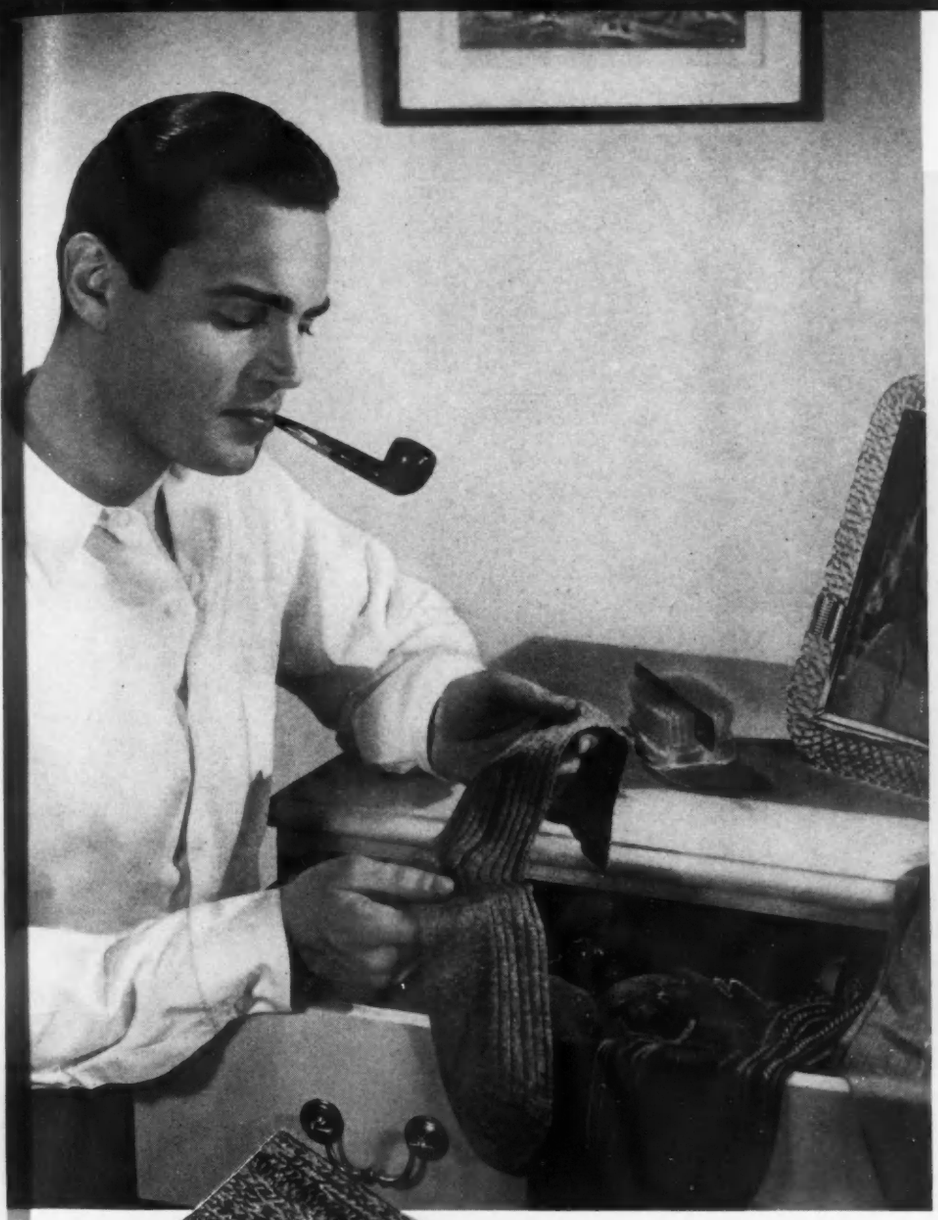
LICENSING AGREEMENTS

Upon expiration of this contract, Riverside & Dan River Cotton Mills, Inc., proceeded forthwith to make available to the industry Licensing Agreements under the terms of which Licensees will be enabled to enjoy all the benefits of this invention equally with Riverside & Dan River Cotton Mills, Inc.

Information as to these licensing agreements may be obtained from

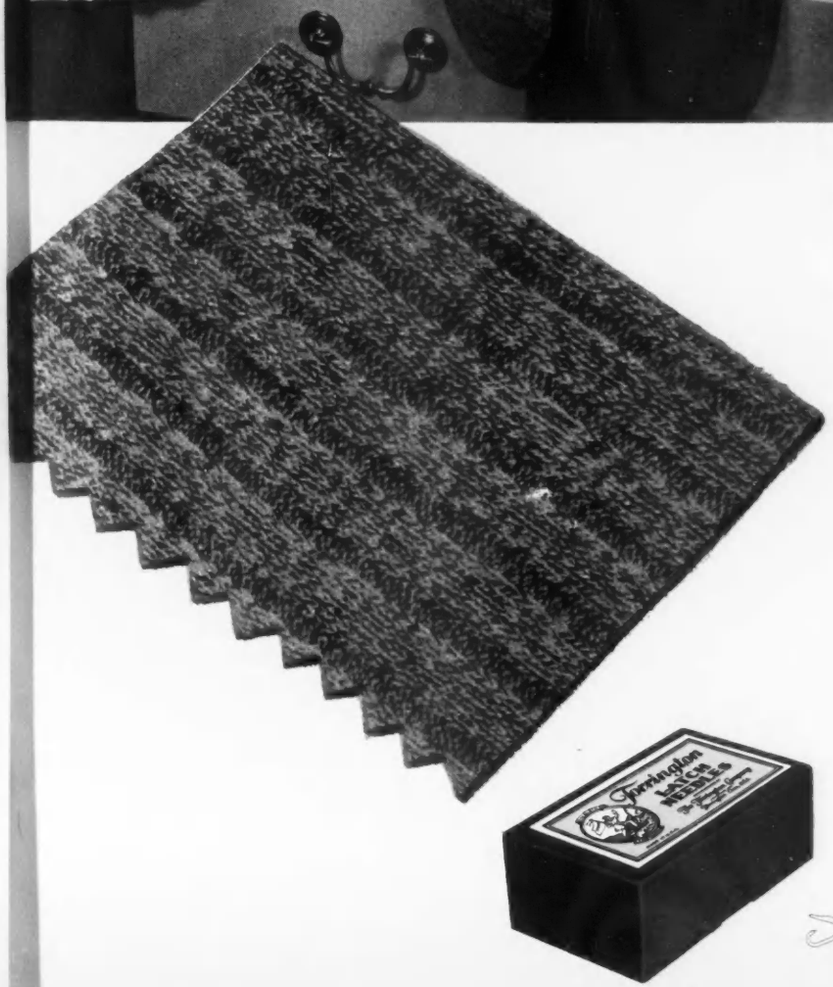
Research Engineering Division

RIVERSIDE & DAN RIVER COTTON MILLS, INC.
DANVILLE, VIRGINIA



FINE *Quality* HAS UNIVERSAL APPEAL

...WITH KNITTING BY TORRINGTON NEEDLES

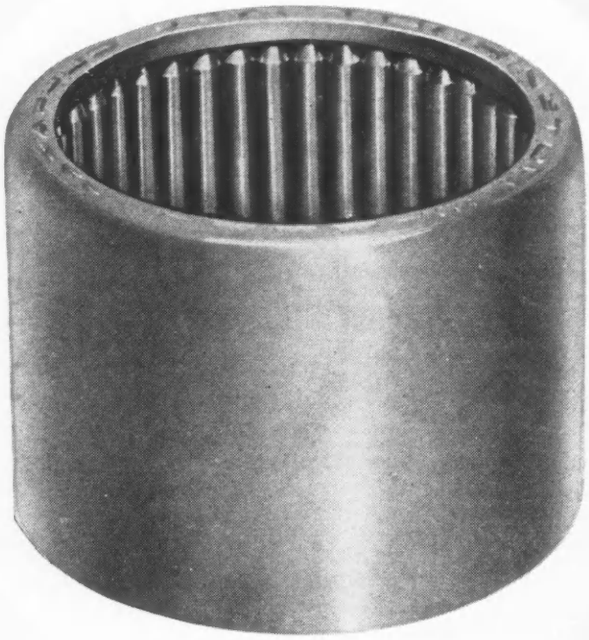


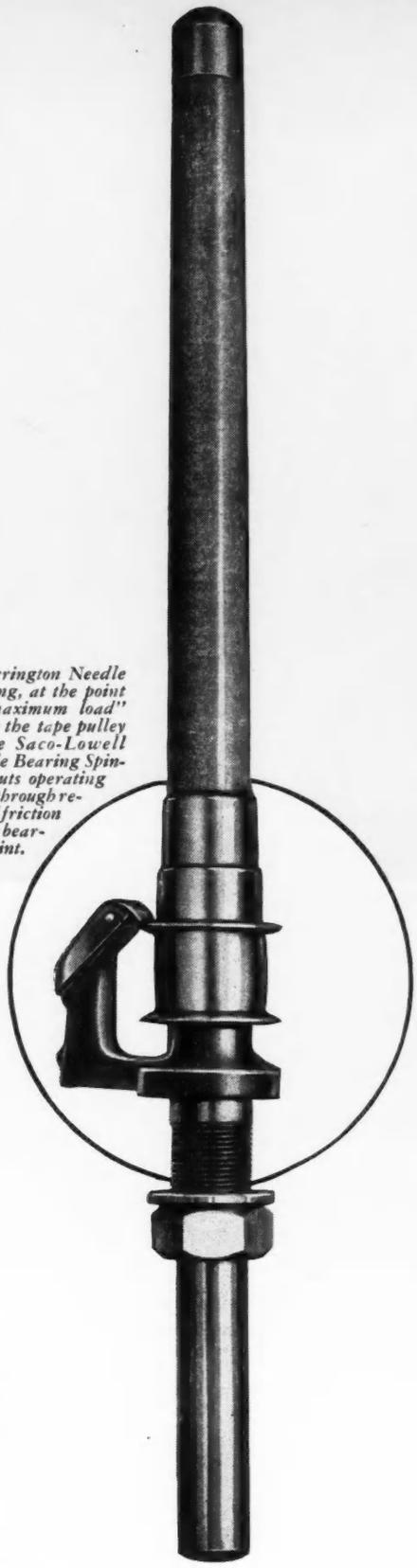
THE QUALITY APPEAL of any color and pattern design is enhanced by accurate, uniform knitting.

Torrington Needles, made by special machine methods, have controlled temper, accurate finish and uniform dimensions which contribute materially to the fine quality of the knitted merchandise they help produce. If you are not now using Torrington's Needles, we believe a trial will convince you of their exceptional performance.

TORRINGTON
Latch Needles

THE TORRINGTON COMPANY
Established 1866
Torrington, Conn., U. S. A.
Branches: New York • Philadelphia • Chicago • Greensboro, N. C.
Boston • St. Louis • Toronto, Canada





A Torrington Needle Bearing, at the point of "maximum load" under the tape pulley of the Saco-Lowell Needle Bearing Spindle, cuts operating costs, through reduced friction at this bearing point.

Spinning with Needle Bearing Spindles

Spindles turning on Torrington Needle Bearings require less maintenance attention for tape replacement and lubricant renewal. These facts have been demonstrated over a period of years in closely observed test installations of Saco-Lowell Needle Bearing Spindles. They operate with lessened tape wear... doing a more efficient job... more economically.

The full complement of small diameter rollers in Torrington Needle Bearings enables them to handle heavy loads safely. They will take high speeds, assure long service life...all with a minimum of attention.

There are undoubtedly ways in which Torrington Needle Bearings can help cut costs and secure more efficient operation of your textile machines. For further information about the advantages of these modern anti-friction bearings and engineering data covering a variety of applications to textile and other types of machinery, send for a copy of our Catalog 32, or write us outlining any specific application requirement.

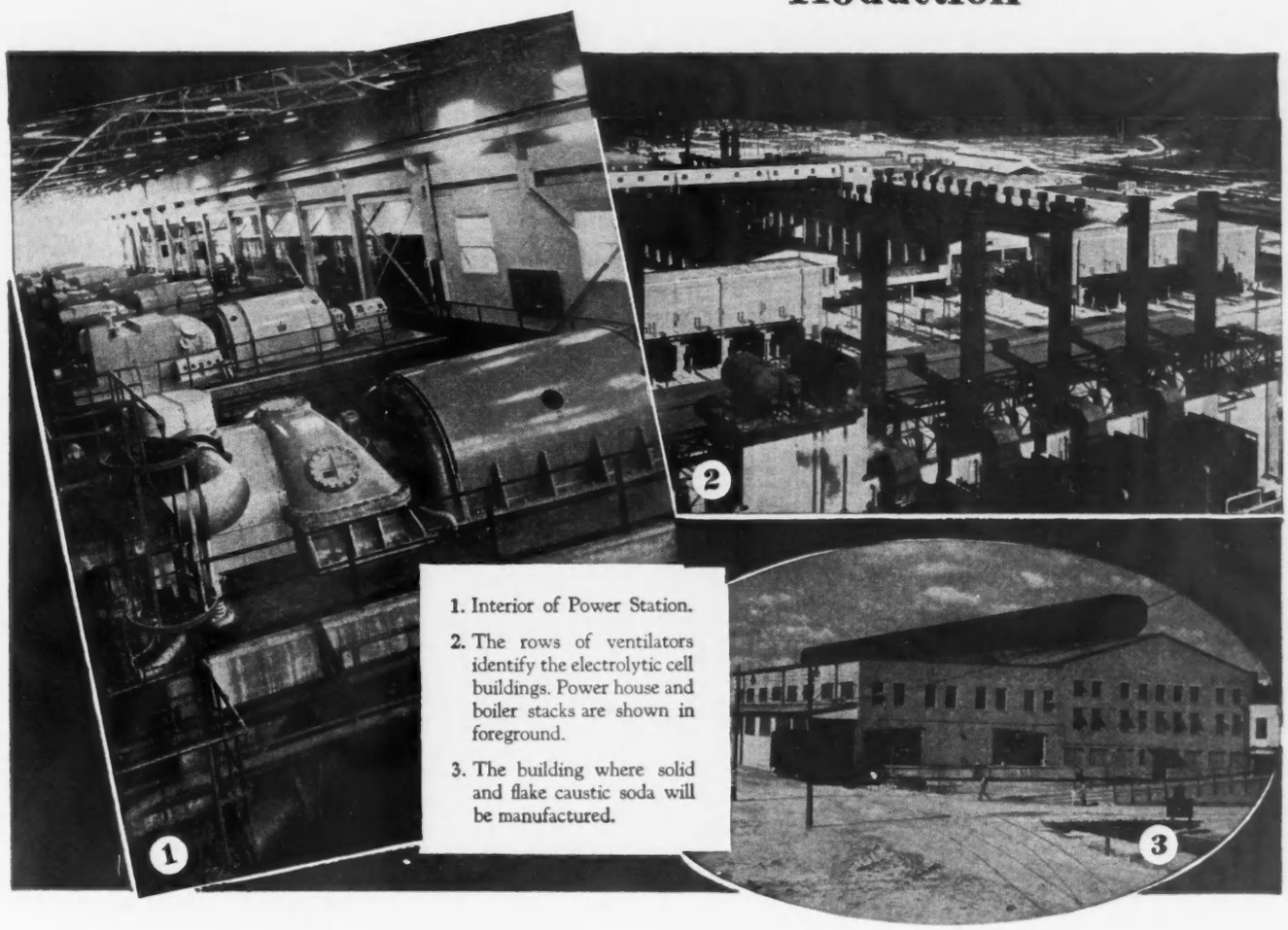
THE TORRINGTON COMPANY

TORRINGTON, CONNECTICUT **SOUTH BEND 21, INDIANA**

Offices in All Principal Cities

TORRINGTON NEEDLE BEARINGS

Lake Charles Plant will increase *Caustic Soda—Chlorine* Production



1. Interior of Power Station.
2. The rows of ventilators identify the electrolytic cell buildings. Power house and boiler stacks are shown in foreground.
3. The building where solid and flake caustic soda will be manufactured.

Built to make wartime magnesium, "Lake Charles" is being converted to the manufacture of chlorine and caustic soda. While actual production will not start until some time next year, the existence of certain vital facilities permits an earlier start than would be possible by constructing an entirely new plant. "Lake Charles" will be operated by The Southern Alkali Corporation—a Pittsburgh Plate Glass Company affiliate. Located in Louisiana, this plant adds an important link to a cross-the-country group of facilities, all strategically located to serve industry efficiently and economically. This group includes a Texas Plant at Corpus Christi—owned by The Southern Alkali Corporation—and Columbia plants at Barberton, Ohio, Natrium, W. Va., and Owens Lake, Calif.

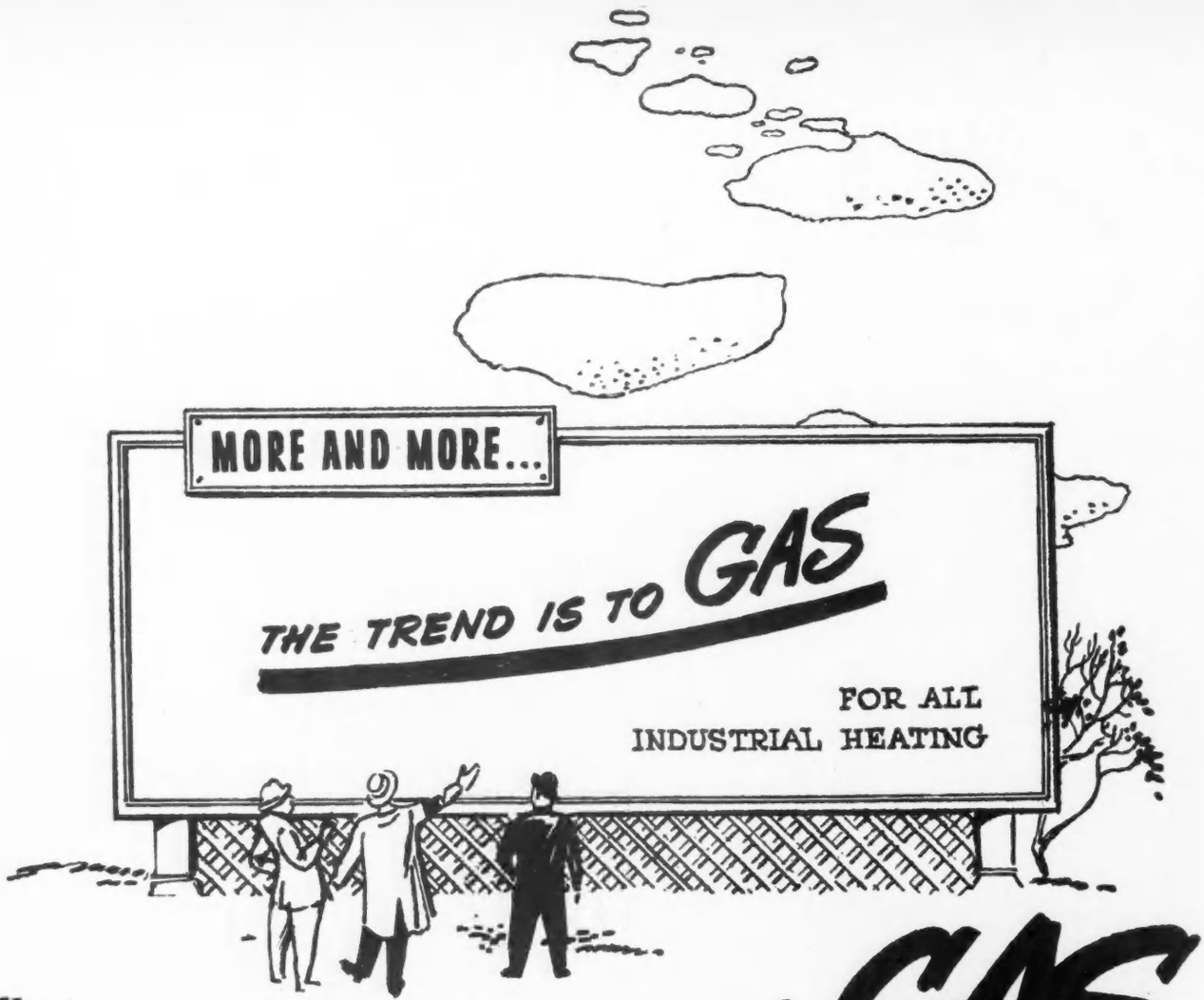
COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY

COLUMBIA CHEMICAL DIVISION

FIFTH AVENUE at BELLEFIELD, PITTSBURGH 13, PENNSYLVANIA · Chicago · Boston · St Louis Pittsburgh · New York · Cincinnati · Cleveland · Philadelphia · Minneapolis · Charlotte · San Francisco

COLUMBIA ESSENTIAL INDUSTRIAL CHEMICALS
Soda Ash • Caustic Soda • Liquid Chlorine • Sodium Bicarbonate • Pittchlor (*Calcium Hypochlorite*) • Silene EF (*Hydrated Calcium Silicate*) • Calcium Chloride • Soda Briquettes (*Iron Desulphurizer*) • Modified Sodas • Caustic Ash • Phosflake (*Bottle Washer*) • CalceneT (*Precipitated Calcium Carbonate*)



When you need heat....you need GAS

More and more "The Trend is to GAS" for the difficult heating jobs of industry. More and more, GAS and modern Gas equipment fulfill the exacting specifications set up by engineers and production executives for all industrial processes requiring heat.

On every count, in comparison with other heat sources, GAS is the ideal heating medium. Wherever heat is required in manufacturing processes, there's a job for GAS. Characteristics of GAS—features of importance to management—include:

- Flexibility
- Cleanliness
- Rapid Heating
- Economy of Operation
- Precise Controllability
- Dependability
- Versatility of Application
- Labor-Saving Automatic Regulation

Your local Gas Company will send an Industrial Representative to explain why:

When You Need Heat—You Need GAS.

AMERICAN GAS ASSOCIATION

420 LEXINGTON AVENUE NEW YORK 17, N. Y.

Firestone

Velon* Fibre

Looms up bright on your sales horizon

***Velon* creates new markets** where light, bright, smart colors were never before practical—because it's soil-proof, stain-proof.

***Velon* wipes clean with a damp cloth.** Dirt and grease—can't cling to its non-porous threads.

***Velon* wears longer.** Each thread is a single fibre of giant strength—so the fabric is amazingly resistant to abrasion, snagging. It will never stretch or shrink out of shape.

***Velon* defies weather** because the color is inherent in the monofilament. Sun cannot fade or change, water cannot wash out or "run" the color.

***Velon* is adaptable** to *your* manufacturing methods, to produce unlimited variety in styles, patterns, textures.

***Velon* is in production.** Firestone engineers and technicians will be glad to advise you. Write Firestone, Akron, for samples of *Velon* yarn and free full color *Velon* booklet.

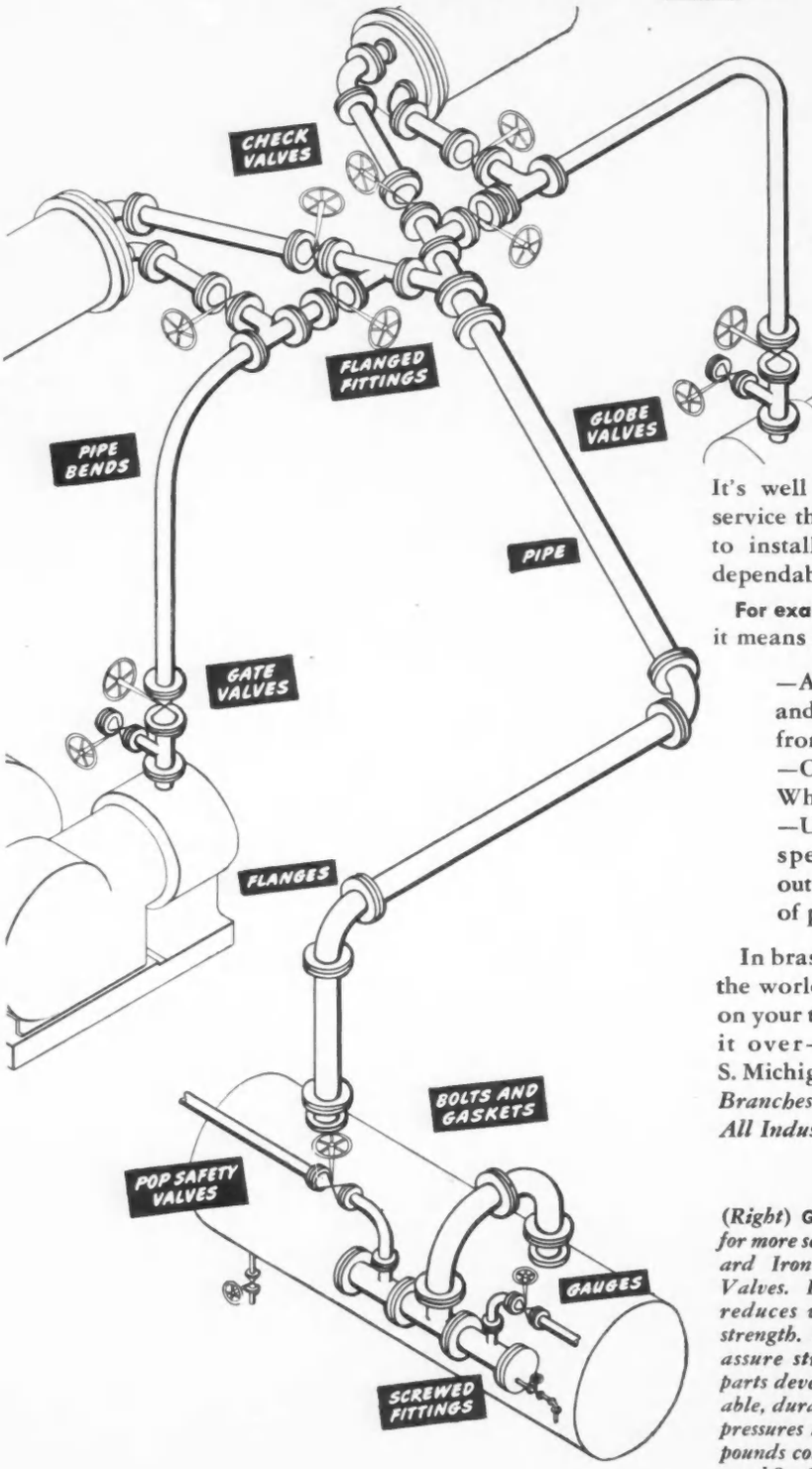
BEST TODAY··· STILL BETTER TOMORROW

LISTEN TO THE VOICE OF FIRESTONE MONDAY EVENINGS OVER NBC

*TRADE MARK

WORTH REMEMBERING!...

CRANE Supplies all Piping Materials



ONE
SOURCE OF SUPPLY
RESPONSIBILITY
STANDARD OF QUALITY

It's well worth remembering and using now—the service that simplifies all your piping jobs from plan to installation. And the one that assures uniform dependability in every part of piping systems.

For example, on this compressor installation, look what it means to have the Crane line for your partner:

—All valves and fittings, pipe, accessories, and fabricated piping units are specified from a single source.
—One order to your Crane Branch or Wholesaler gets them all.
—Undivided responsibility for materials speeds the job. Crane quality throughout guards against untimely breakdowns of piping, and excessive upkeep.

In brass, iron, and steel equipment, Crane gives you the world's most complete selection. There's no limit on your taking advantage of this Crane service. Think it over—now! CRANE CO., General Offices: 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas.

(*Right*) **GREATER ADAPTABILITY** *for more services—Crane Standard Iron Body Wedge Gate Valves. Improved body design reduces weight yet increases strength. Straight-through ports assure streamlined flow. All parts developed to give dependable, durable service. For steam pressures up to 125 pounds; 200 pounds cold. Patterns for every need. See Crane Catalog, page 101.*

EVERYTHING FROM . . .

VALVES • FITTINGS
PIPE • PLUMBING
HEATING • PUMPS

CRANE

FOR EVERY PIPING SYSTEM

VAN VLAANDEREN

Twin-segment Expander. Note the sturdy bearing rods for each segment Patented

BETTER DESIGN makes the DIFFERENCE

All expanders look alike — unless you examine the inside mechanical construction. Before Van Vlaanderen introduced the entirely different bearing construction illustrated here, bearing wear was the cause of expensive repairs and unsatisfactory work.

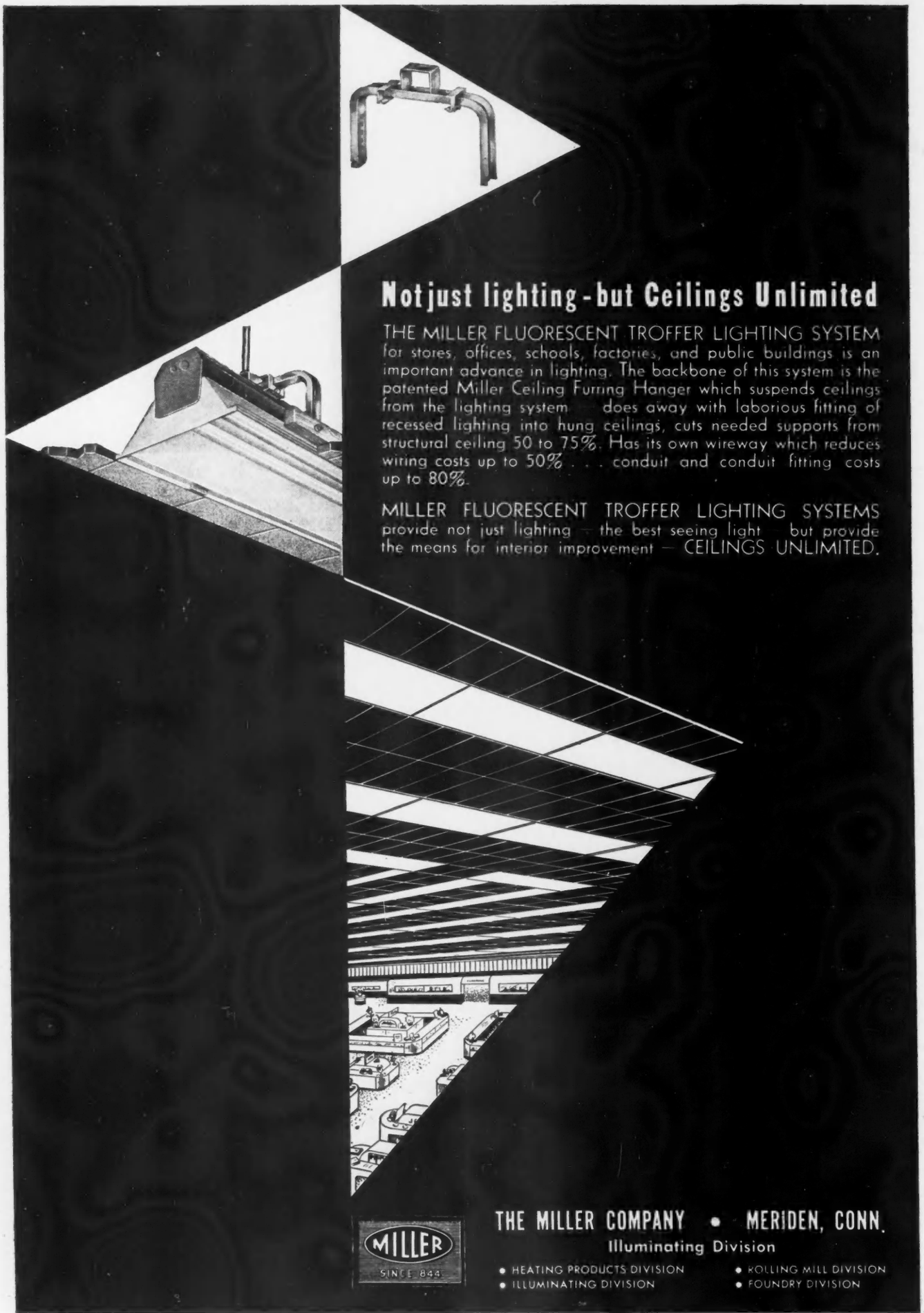
Van Vlaanderen has increased expander life many times. Expensive repairs are eliminated. Minimum tension is required because the slats cannot tilt as in previous expanders, thus giving full friction contact. Wrinkles are taken out and selvages flattened down with easier handling at entry end and better roll up at let-off end.

Nearly all preparing and finishing machines can be equipped with this expander in 5½″ or 7½″ diameters and 45″, 50″, 55″, 60″ and 65″ widths.

VAN VLAANDEREN MACHINE CO. 370 Straight St. **PATERSON, N. J.**

World's largest manufacturer of machinery for processing modern fabrics

Triple-segment Expander with non-sliding center segment Patented


Not just lighting - but Ceilings Unlimited
THE MILLER FLUORESCENT TROFFER LIGHTING SYSTEM for stores, offices, schools, factories, and public buildings is an important advance in lighting. The backbone of this system is the patented Miller Ceiling Furring Hanger which suspends ceilings from the lighting system — does away with laborious fitting of recessed lighting into hung ceilings, cuts needed supports from structural ceiling 50 to 75%. Has its own wireway which reduces wiring costs up to 50% . . . conduit and conduit fitting costs up to 80%.
MILLER FLUORESCENT TROFFER LIGHTING SYSTEMS provide not just lighting — the best seeing light — but provide the means for interior improvement — CEILINGS UNLIMITED.
MILLER
SINCE 1844
THE MILLER COMPANY • MERIDEN, CONN.
Illuminating Division
• HEATING PRODUCTS DIVISION
• ILLUMINATING DIVISION
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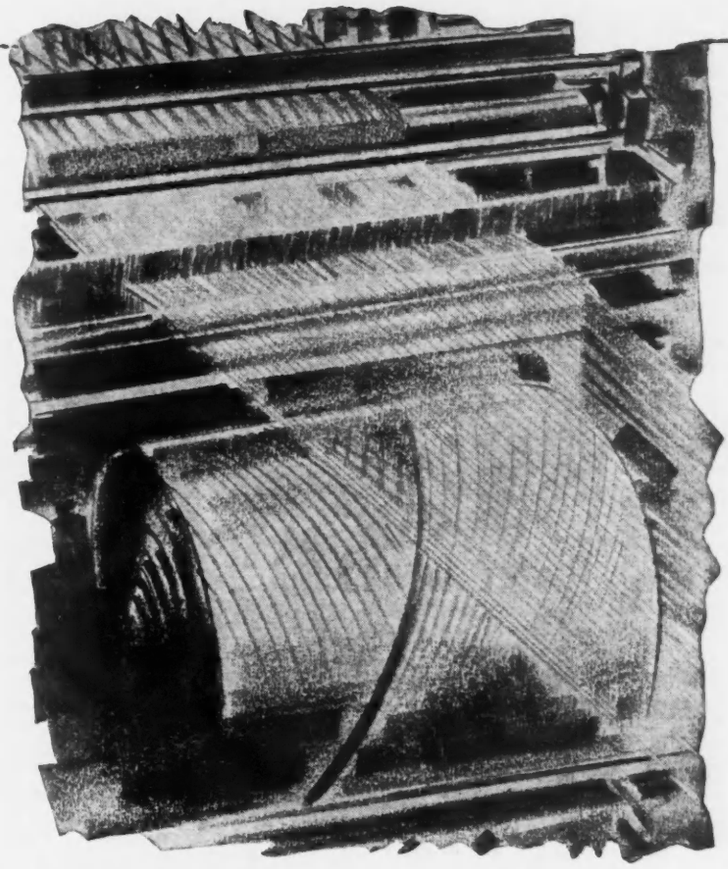
"Reduced drag ...with Tycol spindle oil"



"Not a single tube lost . . .
Reduces spindle drag . . .
Reduces bolster losses . . .
Steps up production . . .
Cuts down on maintenance costs . . ."

— says a textile mill operator. "With Tycol Spindle Oil," he goes on, "we're able to operate continuously at top speed — and we don't have to worry about the oil losing its body at operating temperatures."

For further information about Tycol Spindle Oil, get in touch with your nearest Tide Water Associated Dealer.

LUBRICATION — "ENGINEERED TO FIT THE JOB"

TYCOL
INDUSTRIAL LUBRICANTS

Boston • Charlotte, N. C.
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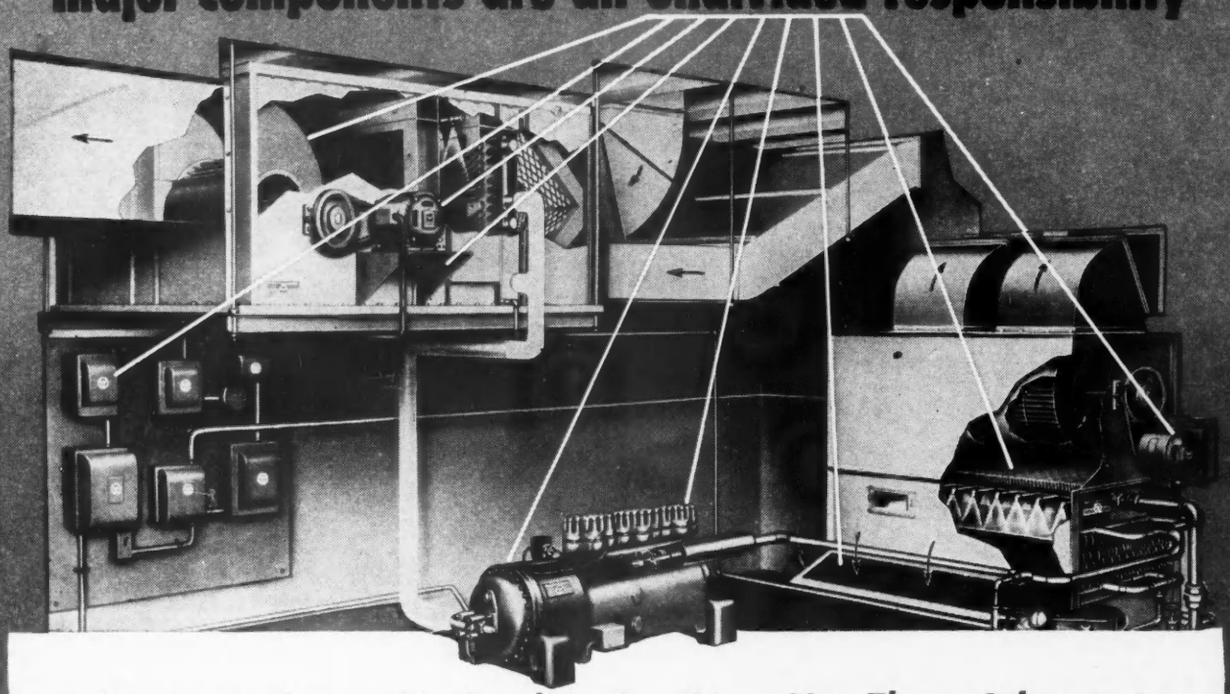
TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE NEW YORK 4, N. Y.

Westinghouse plus Sturtevant

the only source where design and manufacture of all major components are an undivided responsibility



Only Westinghouse Air Conditioning Gives You These Advantages

HERMETICALLY-SEALED COMPRESSORS

The famous Westinghouse compressor is hermetically sealed—an exclusive feature that assures many operating and maintenance savings. The mechanism is completely enclosed—sealed-in power, sealed-out trouble, no exposed moving parts. It has a direct-drive mechanism—with no shaft seals or "stuffing boxes" to develop leaks—no belts, pulleys or couplings to adjust or replace.

plus

UNEQUALLED KNOW-HOW IN FAN ENGINEERING

For more than 80 years, Sturtevant has pioneered every major advance in fan design and fan application. Compact in design, sturdy in construction and highly efficient in operation, Sturtevant fans, coils and other air handling equipment add new reliability and economy to modern Westinghouse Air Conditioning.

plus

MATCHED MOTORS AND CONTROLS

Famous Westinghouse motors along with an equally well-known line of controls provide Westinghouse Air Conditioning systems with *matched* electrical apparatus to do the job most efficiently *when working together* with the other parts of the system. Whether complete factory-built units or custom-built designs, you are assured of long life and low operating cost.

plus

THE ULTIMATE IN AIR CLEANING

Westinghouse Precipitron—the electronic air cleaner—insures circulated air free of dust, dirt, smoke, fumes, pollen and other particles which conventional filters are unable to remove. Entirely automatic in operation, Precipitron is inexpensive to operate—has nothing to be replaced.

HEATING • VENTILATING • AIR CONDITIONING • PRECIPITRON

NEW TEAMWORK
in Air Conditioning
...means new benefits for you!

Now—for the first time in air conditioning history—a nation-wide organization has been created that puts responsibility for all the major components of air conditioning under one roof.

What new benefits does this bring *for you?*

First, this new organization is a combination of two famous names in the industry . . . Westinghouse and Sturtevant. Each of the component parts that make up a Westinghouse Air Conditioning system is now *matched* . . . designed and manufactured by one organization to provide maximum efficiency *when working together*. Trouble-free performance and lower operating costs are direct benefits.

This new teamwork provides the only complete, unified line—comprising the finest equipment made. It includes the exclusive Westinghouse hermetically-sealed compressor, top-efficiency Sturtevant fans, coils and other air handling equipment, Westinghouse Precipitron plus Westinghouse motors and controls.

This all adds up to one of the biggest benefits of all . . . *undivided responsibility*. When you buy Westinghouse Air Conditioning, you will be served by the only organization that is prepared to manufacture and install the entire system according to your specific demands. Because one organization does the whole job, it can be depended on to give trouble-free, economical service—for years to come.

FACTS FOR TEXTILE MEN

Because textiles are among the most weather-sensitive o all products, air conditioning has made possible uniformly high quality and lower costs. Investigate the benefits that Westinghouse Air Conditioning will bring to your plant. We are ready to cooperate on your engineering designs now —to assure prompt delivery when our equipment begins to roll off the production lines again *in quantity*. Write to the B. F. Sturtevant Company, Hyde Park, Boston 36, Mass.
J-80,013

Sturtevant
Puts Air to Work

B. F. STURTEVANT COMPANY • DIVISION OF
Westinghouse
ELECTRIC

DRYING • DUST AND FUME CONTROL • MECHANICAL DRAFT

H & B

WHITIN

SACO-LOWELL

The *little* time spent NOW in changing over will make a BIG difference in your profits later on. *Step 1:* Simply take *out* old pulleys and wooden bearings. *Step 2:* Put new SKF Ball Bearing Tension Pulleys and Plastic Supporting Blocks *into* old brackets. *Step 3:* Adjust the tape tension rod, if necessary. *Then turn on the switch!*

Results:

Constant speed with minimum power consumption assuring 'a better twist per inch'.

Reduced tape tension because of the freedom of rotation and the elimination of slippage with LONGER TAPE LIFE.

Cleanliness because lubricant is retained within the grease chamber of the pulley and does not leak on to adjacent parts to collect lint and dirt.

Minimum maintenance because wear is reduced to a vanishing point.

When you order—either through your nearest Authorized SKF Textile Distributor, or direct—specify 'Pulley W-2493' and type of bracket or make of frame.

5941

SKF INDUSTRIES, INC., Front St. & Erie Ave., PHILADELPHIA 34, PA.

SKF

BALL BEARING TENSION PULLEYS AND PLASTIC SUPPORTING BLOCKS

FOR SPINNING FRAMES

For scouring, bleaching and dyeing — in hard or soft water . . . use

HOUGHTON'S CERFAK

. . . new synthetic detergents

A series of detergents in powder or liquid form, available now to the textile industry without restriction. Cerfak products provide excellent scouring properties in any water—hard or soft, hot or cold. They make creamy sustained suds, and will not form curds or precipitates in the bath. They wet out rapidly.

Houghton's

For textile scouring use these CERFAK detergents that actually beat soap at its own game. E. F. HOUGHTON & CO., Philadelphia and Charlotte.

PRODUCTS FOR THE TEXTILE INDUSTRY

This fact has a definite reason behind it

Your GATES VULCO ROPES
Are Today Making Performance Records
NEVER EQUALED by *ANY* V-Belts Before!

No V-Belts built by *anyone* before the war had anywhere near the strength and durability that was found necessary on U. S. Army tanks, tractors and self-propelled big guns during the war. Gates developed these greatly superior V-belts for Army use—and here is why this fact is important to industrial users of V-belts: —

Here is the reason

Every improvement developed by Gates for U. S. Combat Units—and many later improvements, also—have been added, day by day, to the quality of the Standard Gates Vulco Ropes which have been delivered to you.

That is why, *long before the war was over,* you were getting in your Standard Gates Vulco Ropes a product built to far higher service standards than any V-belts ever built by anyone before the war.

And that is not all of the story. Through continuing *specialized* research, the service qualities of these superior Gates Vulco Ropes have been still further improved as all of Gates facilities and energies have been returned to the service of industry.

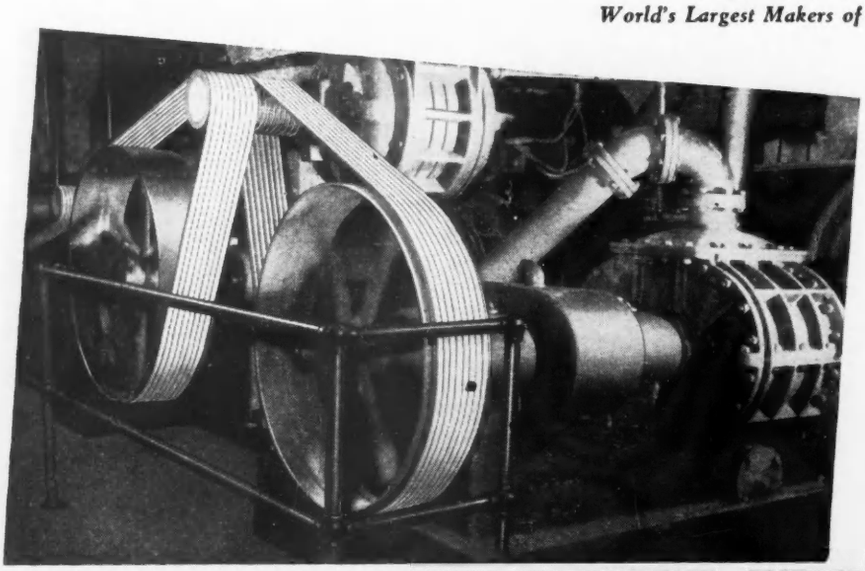
These are the simple reasons why you are finding that your Gates Vulco Ropes are today outperforming any V-Belts you ever used before.

THE GATES RUBBER COMPANY
DENVER, U. S. A.
World's Largest Makers of V-Belts

All Gates V-Belts are Built With *The Patented* CONCAVE SIDE

Gates

THE MARK OF SPECIALIZED RESEARCH



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GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks **IN ALL INDUSTRIAL CENTERS** of the U. S. and 71 Foreign Countries

Need Advice about Machining Stainless Steel? -ask EASTERN!

Stack Drilling? What drill feed should be used in drilling 3/8-in. holes through clamped stacks of 20-gage, E-S 18-8 Mo stainless (Type 316) sheets?

Bevel Milling? In beveling E-S 18-8 low-carbon stainless (Type 304) plate edges before welding, must we decrease the speed or feed of the milling cutter as the cut widens?

Hole Size for Tapping? What diameter reamer should be used on holes in titanium-bearing E-S 18-8 plate (Type 321) to be tapped for 1/4"-32 threads?

Saw Tooth Set? Is any special set required in the teeth of a band saw for cutting light-gage E-S 18-8 stainless sheet (Type 302)?

Punch-Marking? Can we punch-mark drill holes in E-S 18-8 chrome-nickel plate (Type 304)? What is the best way to start holes at an angle with this plate?

Counterboring? Is reaming likely to harden E-S 17-7 Stainless (Type 301) so much that counterboring is difficult? What is the remedy?

Machining stainless, like handling any other important metal, requires the right technique. When you know how, it is simple. When you need help, get in touch with Eastern. Eastern technical men have worked with stainless so much that they have the right advice at their fingertips. There is a lot of good advice, too, in Eastern's booklet, "Eastern Stainless Steel Sheets." A copy is yours for the asking. JMLco E-E1

ask Eastern for the answer when Stainless is the question

ES

EASTERN STAINLESS STEEL CORPORATION
BALTIMORE 3, MARYLAND

WHAT IS YOUR

IT PAYS TO KNOW *MORE* ABOUT

HERCULES

PROBLEM?

. . . A LETTER TO HERCULES MAY GIVE YOU THE ANSWER, as it is doing for hundreds of others every month . . .

Are you seeking chemical materials that might better the quality or performance of your products, or improve their processing? If so, take a cue from the hundreds of other manufacturers who write to us every month for help in the selection and use of Hercules chemical materials.

Hercules' broad experience in the development, production, and application of terpene and rosin chemicals, synthetics, cellulose products, chemical cotton, and other chemical materials for the textile industry, can guide you toward the most effective and economical ways to employ these products.

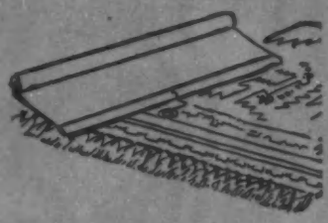
Drop us a line today, outlining your problem or mentioning the Hercules chemical materials in which you are interested. Your inquiry will receive prompt attention, no matter how moderate your needs.

*Reg. U. S. Pat. Off. by Hercules Powder Company

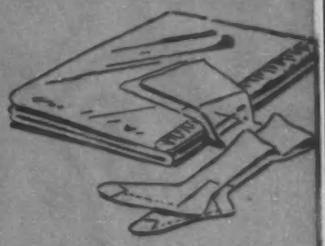
Hercules chemical materials for the textile industry include:

B-3 Reagent...
Used as a delustering agent in the processing of rayon, both in manufacturing and finishing operations.

Clorafin*...
Hercules low-cost chlorinated paraffin for flame- and water-resistant coatings for canvas and other textiles.

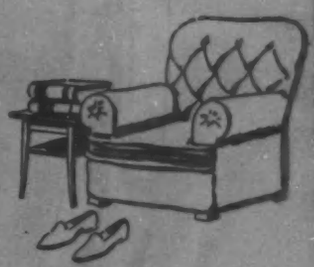


Flexalyn*...
An economical binder for corn and other starches for back-sizing carpets, tag cloth filling, window shades.



Pine Oil...
Yarmor* 302-W pine oil is a low-cost wetting agent and penetrant used in wet processing all textile fibers.

Terposol* 8...
One of a series of solvents and plasticizers for textile chemicals. An excellent dispersant for pigments.



Nitrocellulose...
Hercules nitrocellulose and ethyl cellulose are the basis for rapid drying, durable, brilliant textile coatings.

FOR FURTHER DETAILS

HERCULES POWDER COMPANY
INCORPORATED
994 Market Street, Wilmington 99, Delaware

Please send information on_____

_____

*Name*_____

*Title*_____

*Company*_____

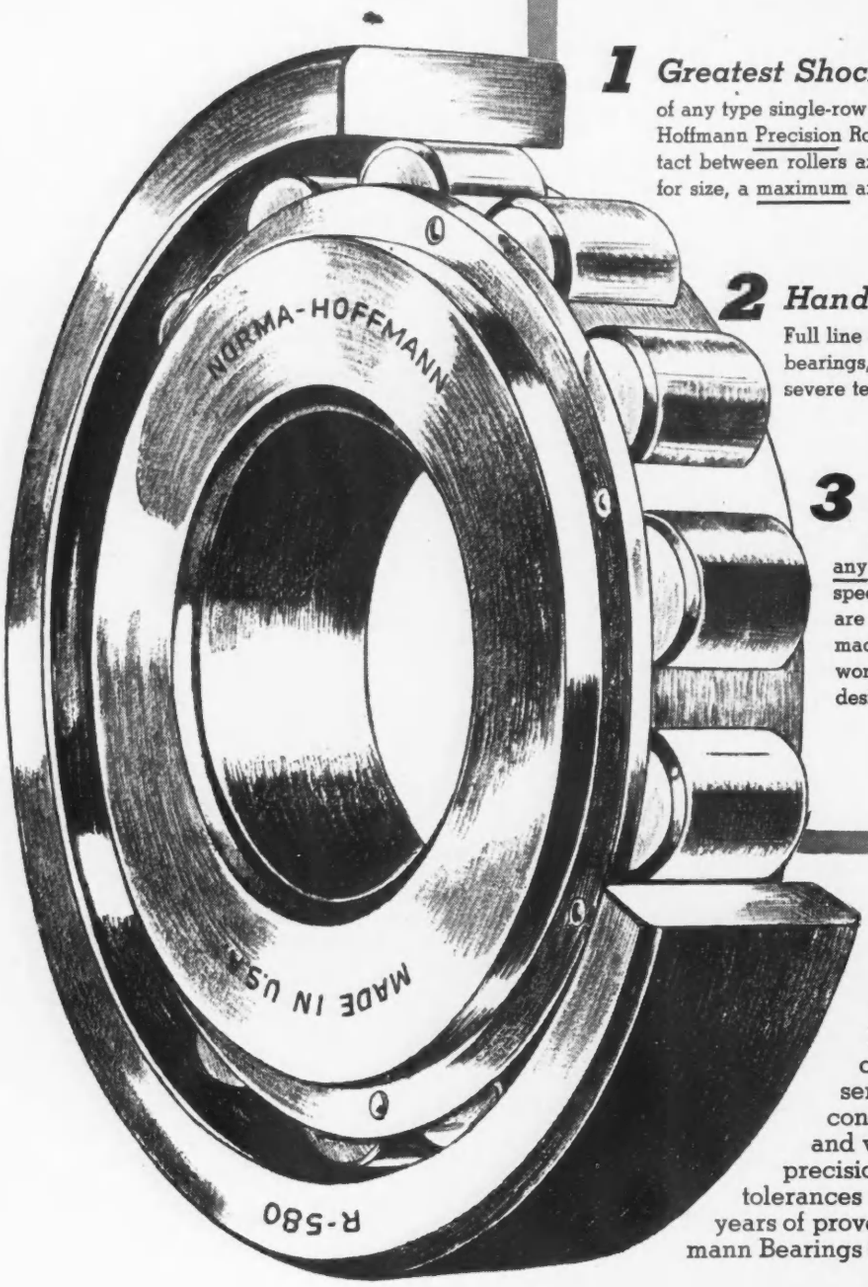
*Street*_____

*City*_____ *Zone*_____ *State*_____

7-58

EMICAL MATERIALS FOR
E TEXTILE INDUSTRY

Brutes for Strength



1 ***Greatest Shock Absorbing Capacity*** of any type single-row bearing. Here's the secret: Norma-Hoffmann Precision Roller Bearings provide full line contact between rollers and races. That means you get, size for size, a maximum area to support shock load.

2 ***Handles Up to 50% Overload*** Full line contact, the design feature of these bearings, also provides ample margin for severe temporary overloads.

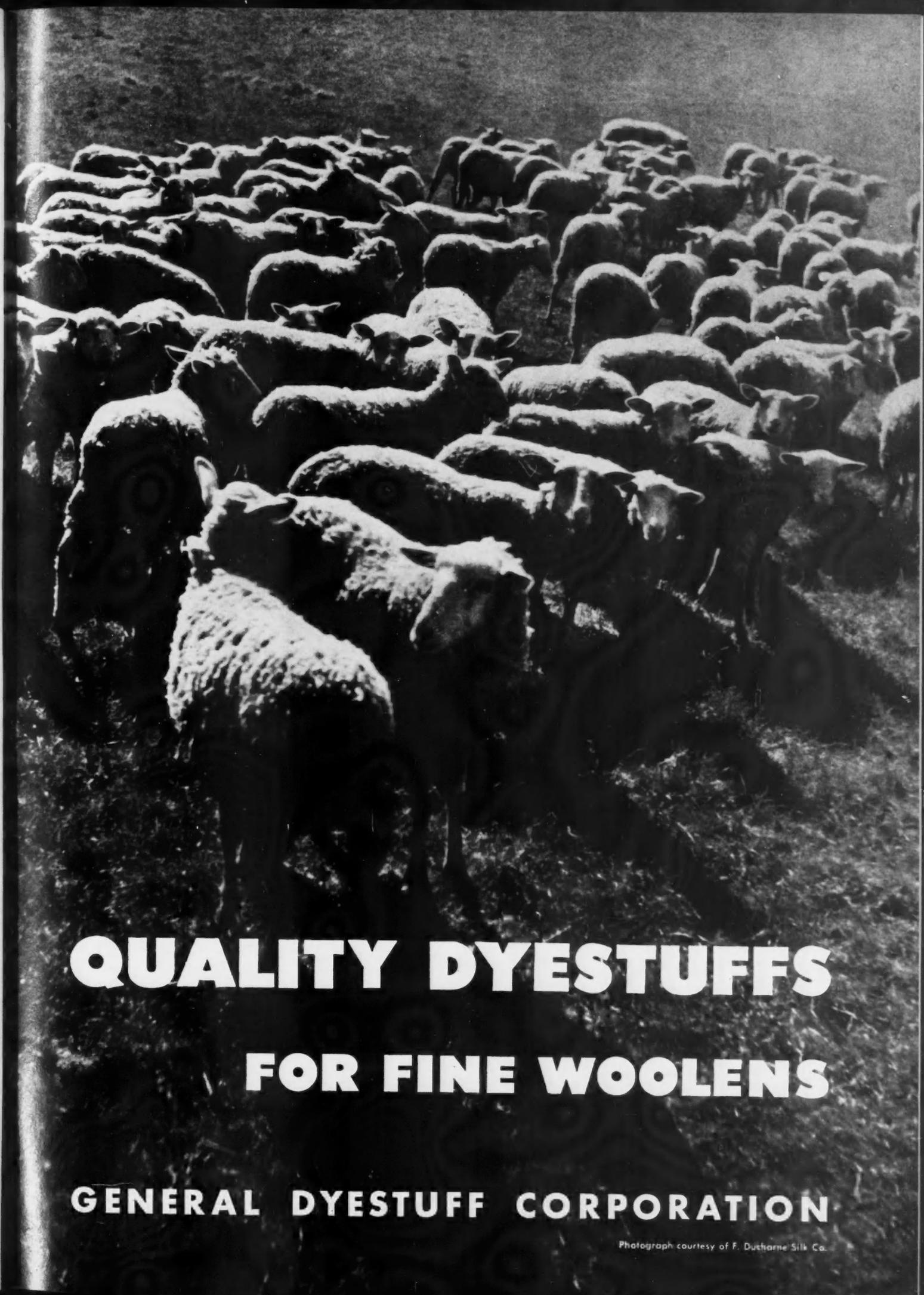
3 ***Lowest Coefficient of Friction*** under heavy load of any type bearing, plus unsurpassed speedability. These important benefits are a result of Norma-Hoffmann's 100% machined bronze retainer, precision workmanship and short, parallel roller design.

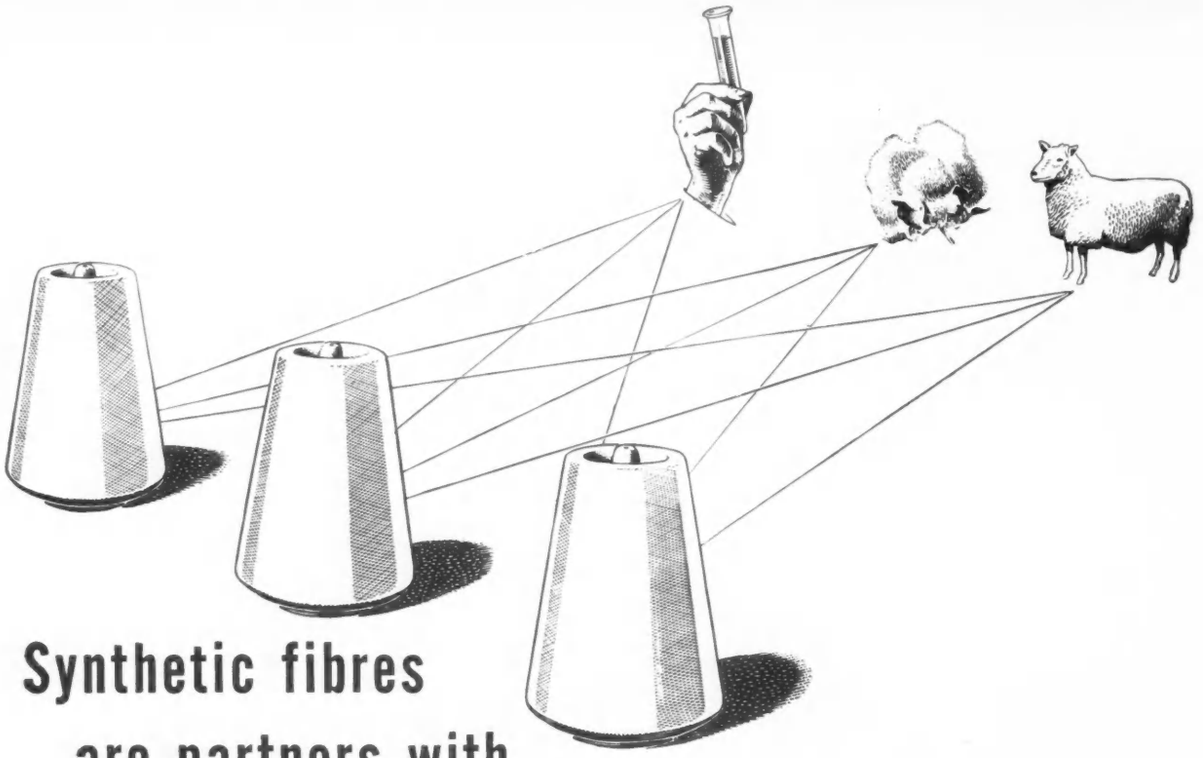
When the going is so tough no other anti-friction bearing will stand up—use Norma-Hoffmann Precision Roller Bearings. You will continue to get dependable service under critically severe conditions of speed, load, shock and vibration. These bearings are precision-made to unusually exacting tolerances and are backed by years and years of proved performance. Norma-Hoffmann Bearings Corporation, Stamford, Conn.

"NORMA-HOFFMANN"

Precision Ball, Roller and Thrust Bearings

FIELD OFFICES: NEW YORK, CHICAGO, CLEVELAND, DETROIT, PITTSBURGH, CINCINNATI, LOS ANGELES, SAN FRANCISCO, PORTLAND, ORE., SEATTLE, PHOENIX


QUALITY DYESTUFFS
FOR FINE WOOLENS
GENERAL DYESTUFF CORPORATION
Photograph courtesy of F. Dutharne Silk Co.



Synthetic fibres are partners with Cotton and Wool in the textile industry

There is a certain amount of healthy competition among all the textile fibres, of course, but far more important than any competitive effect has been the many advantageous ways in which synthetic fibres such as Celanese* yarns are used *with* the other fibres.

A man-made yarn, with physical and chemical properties different from cotton, wool and viscose process rayon, Celanese yarns are extensively used in combination with these fibres, thus making possible new fabrics, new styling, new manufacturing techniques, new values for the public.

Of equal importance, synthetics introduced the factor of known cost into the raw materials picture. Celanese yarns—unaffected by the vagaries of Nature and with quality scientifically controlled—are free of undue price fluctuations. Hedging against commodity fluctuations and carrying long term inventories are unnecessary.

Today many cotton mills employ Celanese yarns blended with cotton for the production of combination fabrics. This makes possible a broader and more even volume with consequent benefit. In addition to the seasonal cotton fabrics, whose use is restricted largely to summer, cotton manufacturers can add combination fabrics of cotton and Celanese yarns which are adaptable to a much longer "season" and capable of an infinite variety of weaves, textures and weights.

Wool is likewise combined with Celanese yarns in various fabrics, such as men's and women's lightweight suitings, which extend the season in which wool ordinarily is used. Celanese yarn is extensively used with viscose process rayon for making many popular fabrics that combine the properties of both types of yarns.

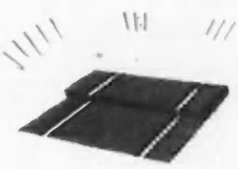
Aside from their major use in fabrics of all Celanese yarn, one reason for the outstanding growth of Celanese synthetic yarns has been their far-reaching service to textiles in general—opening up new opportunities for production and styling, stimulating sales and markets, and making possible plant expansions and increased employment throughout the textile and allied industries. Celanese Corporation of America, 180 Madison Avenue, New York 16, N. Y.

Copyright 1946, Celanese Corporation of America

Celanese*

*Reg. U. S. Pat. Off.

TEXTILES . . . PLASTICS . . . CHEMICALS

From this to this in the same dye vat in just a few minutes! It's that easy to drain and rinse finishing equipment made of ARMCO Stainless Steels. *No boil-outs* are needed in changing from dark to light shades. You get color consistency; delicate shades of color are not affected by chemical reaction. Fabrics and yarns *won't snag* on the clean, smooth surfaces of ARMCO Stainless Steel. This rustless metal eliminates troublesome and costly rust spots as well as discoloration.  There are fewer rejects; and you get greater production with fewer units. You get longer service life because ARMCO Stainless is a solid steel... there is no plating to wear off. For full information write your equipment fabricator. Or get in touch with us. The American Rolling Mill Company, 3611 Curtis Street, Middletown, Ohio.

THE AMERICAN ROLLING MILL COMPANY

Special-Purpose Sheet Steels • Stainless Steel Sheets, Bars and Wire

STAINLESS ARMCO STEEL

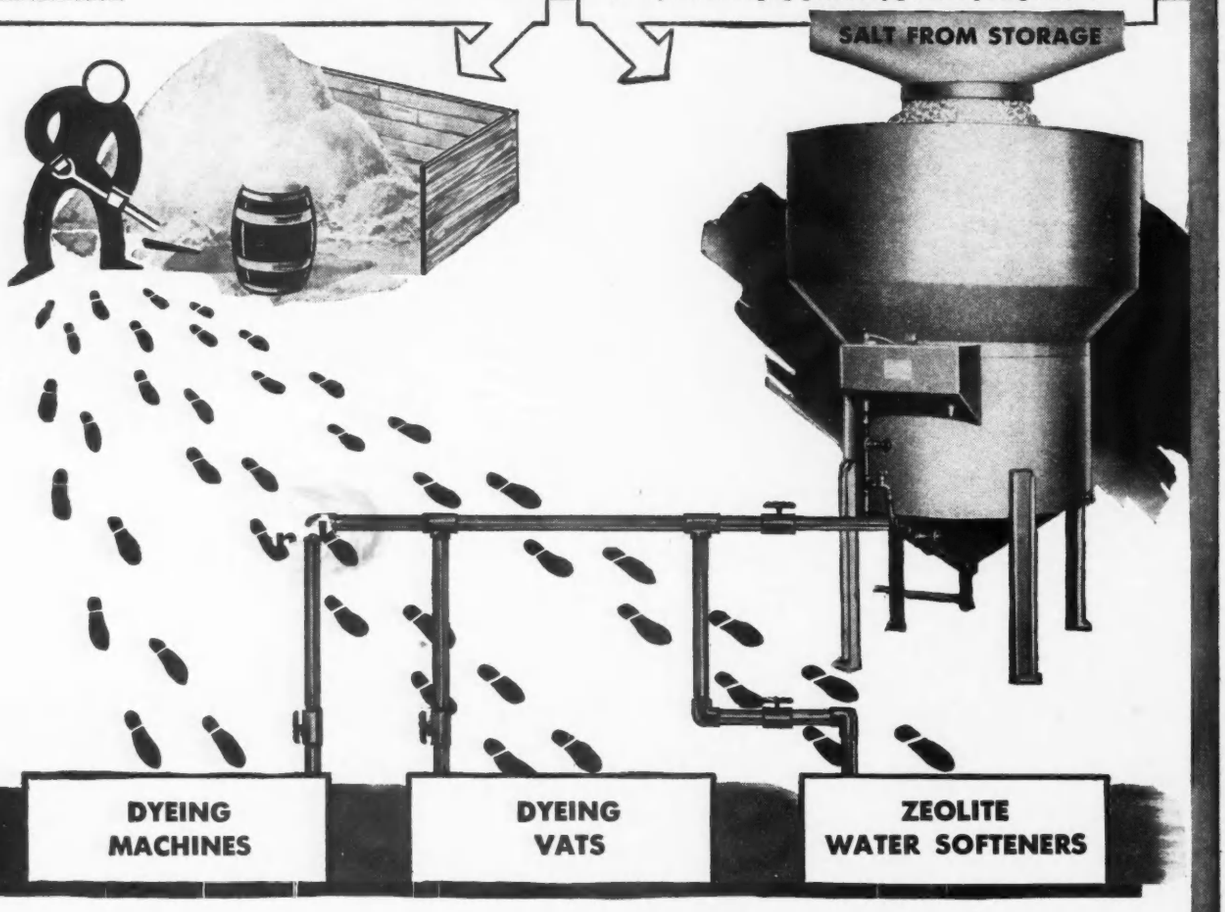
When you "PASS the SALT"

Old, Hard Way Wastes Man-Hours, Money!

From storage, salt must be repeatedly shoveled, measured, hauled, dumped, dissolved. Salt gets spilled. Time and labor are wasted. And resulting brine is of uncertain purity and saturation.

New, Easy Way SAVES Man-Hours, Money!

From storage, salt feeds directly into Lixator hopper. 100% saturated crystal clear brine exceeding the most exacting chemical purity requirements is produced automatically. Brine *flows* through pipes to any point in your plant.



Salt handling ends where your automatic Lixator begins to operate. Using economical Sterling Rock Salt, the Lixator supplies *100% saturated,* free-flowing, crystal clear brine by pipe to any desired number of points you wish. There's economy in its gravity flow . . . economy in its mechanical perfection.

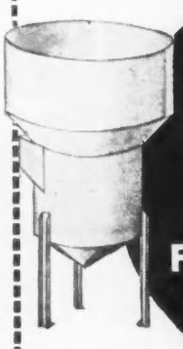
By eliminating wasted man-hours and wasted salt due to handling, spills and dissolution in storage, Lixate users report savings as high as 20%. And remember, besides meeting all of your regular operating and processing needs, your Lixator provides a perfect brine for zeolite water softeners.

"Significant Savings from the Lixate Process"

—declares **ZERRY L. POTTS,**
***Dye House Foreman,* The Stead & Miller Co.**

The full story of how such savings are achieved is told in our free booklet, "The Lixate Process for Making Brine." Write for your copy:
INTERNATIONAL SALT COMPANY INC., Dept. TW-7, Scranton, Pa.

*Name*_____
*Firm*_____
*Street*_____
*City*_____ *State*_____

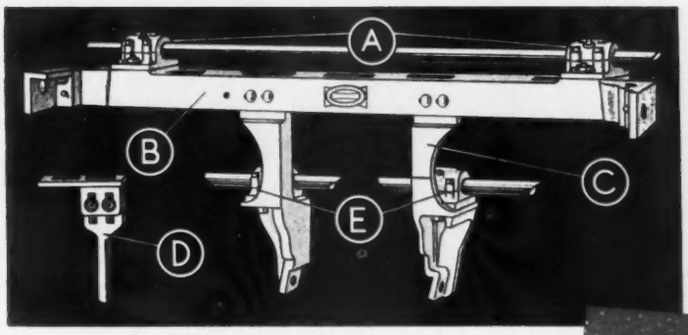


The **LIXATE** *Process*
FOR MAKING BRINE
★ ★ ★
INTERNATIONAL SALT COMPANY, INC.
Scranton, Pa.

18% IS A LOT OF EXTRA PRODUCTION

.....yet Hunt Spreaders make it possible!

A real phenomenon in textile production, tested and proved by more than 120 mills in the Southeast! Independent reporters, investigating Hunt Spreaders, found these revolutionary devices increasing loom speeds 7½% to 18% on actual jobs . . . . increasing picks from 160 to 196 picks per minute. These reporters testified that the looms with Hunt Spreaders were running more steadily at higher speeds than they had run at lower speeds without Hunt Spreaders. Mill men who have installed Hunt Spreaders know that these startling new devices, added to existing equipment, increase production and lower operating costs. Investigate the possibilities for your plant. Write or wire for detailed information today.



Hunt SPREADERS
• ADD YEARS TO LOOM LIFE •

PRODUCTION ABC's

A These two extra bearings on the crank shaft materially reduce destructive vibration.

B Main spreader beam, bolted and dowled to the loom sides further eliminates major vibrations.

C Vertical stands, connecting beam with cross girts, give additional stability to the loom.

D Improved type adjustable stop-motion supports are fitted, one at each end of the spreader beam.

E To complete the installation, two extra bearings on the cam shaft. Simple as A-B-C, the Hunt Spreader's total effect is greater, more continious production. Costs go down and profits go up when you install Hunt Spreaders.

Hunt Equipment is Manufactured and Distributed by

Mountain City Foundry & Machine Co.

GREENVILLE, SOUTH CAROLINA

control shrinkage with *Lanaset** resin

Smart, modern woolens for year 'round wear are now being made of fabrics treated with LANASET* RESIN. These fabrics offer an invaluable "selling point"—the assurance that, with proper care, they can be washed over and over again and retain their size and fit like the suit worn by the young lady at the right. The fabric of the identical suit worn by her companion at the left was *not* treated with LANASET RESIN. Note the difference after the same number of washings.

LANASET RESIN is a melamine resin that controls excess shrinkage and felting, stabilizes the fibers, guards the natural beauty, texture, absorbency and other desirable qualities of wool. It is a safe, convenient, and effective process for treating wool fabrics.

Store merchandisers from coast to coast are enthusiastic about LANASET RESIN-treated merchandise. It is adding up to better customer service, and greater consumer satisfaction through longer life of merchandise. Our technical service will be glad to help you plan a new line of woolens featuring the LANASET RESIN finish.

**Reg. U. S. Pat. Off.*

Lanaset RESIN
FOR WOOL SHRINKAGE CONTROL

SHEERSET† RESIN—Combination of resins based on melamine which may be applied to cotton, rayon and acetate sheer woven fabrics and mixtures as a wash resistant, crisp, resilient finish. If desired, pigment colors may be incorporated in the impregnation bath to obtain colored effects which are fast to light and washing.

Sheerset RESIN

LACET† RESIN—Combination of resins based on a melamine type which may be applied to cotton or rayon Nottingham lace curtains as a durable stiffener. At the same time the finish controls stretching (sagging) and shrinking. Where unusual fastness to light is desired, pigments may be used to produce the desired effect. This finish contributes to soil resistance and eliminates the need of framing and ironing after laundering. When chlorine is used in the washing process, it is essential that the standard practice be observed and an antichlor used.

Lacet† RESIN

AEROTEX SOFTENER H—A durable synthetic type softener especially suited for use in conjunction with many of the synthetic type resins because of its compatibility. AEROTEX SOFTENER H produces a finish of superior smoothness and suppleness of handle, being equally efficient on wool and wool mixtures, cotton or synthetic fibers. It is an excellent wetting agent and does not discolor or interfere with crease-resistant properties. It may be applied at any stage during the wet processing of the goods.

aerotex† softener H

†Trade-mark of American Cyanamid Company

AMERICAN CYANAMID COMPANY
TEXTILE RESIN DEPARTMENT

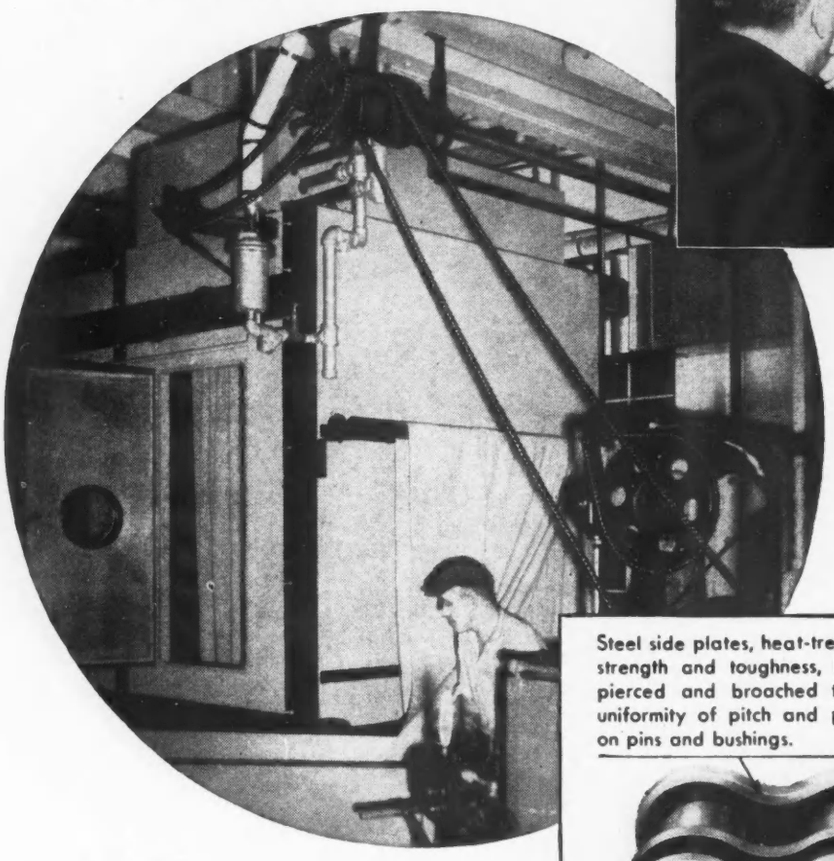
BOUND BROOK, NEW JERSEY

New York · Boston · Philadelphia · Providence · Charlotte · Chicago

LANASET† RESIN · SHEERSET† RESIN · AEROTEX† SOFTENER H · LACET† RESIN

DO YOU KNOW ROLLER CHAIN . . .

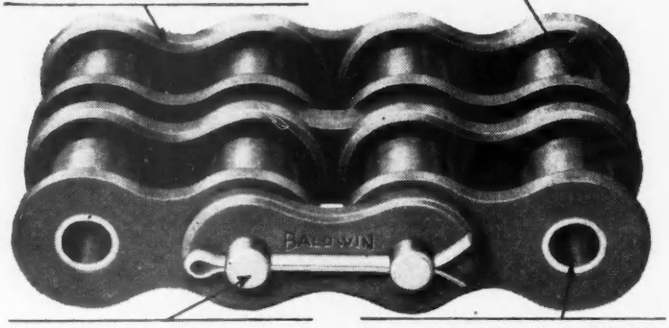
1. Eliminates Stretch
2. Stops Slippage
3. Prevents Hazards From Static Electricity
4. Handles Heavy Loads
5. Resists Heat



② IF YOUR DRIVES must stand up under heat or acid fumes, Baldwin-Rex roller chains can help you. Here, for example, they drive rolls which carry cloth through a bath of sulphuric acid and into a drying oven. The acid and heat carbonizes particles of foreign matter and removes them from the cloth. Despite heat and fumes, these standard roller chains operate efficiently, without excess wear.

Steel side plates, heat-treated for strength and toughness, blanked, pierced and broached to insure uniformity of pitch and press fits on pins and bushings.

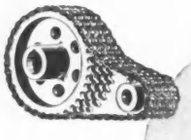
Alloy steel roller heat-treated for extreme toughness and resistance to wear, then ground to size.



Alloy steel pin, case hardened, ground for accuracy, superior bearing surface. Shorter pitch chains furnished with riveted construction.

Alloy, case hardened steel bushing ground for accuracy and press fits in side bars.

③ CONTRAST THIS with other types of power transmission where you would need special units of heat-resisting material, others of special acid-resisting material to assure a positive, long-lasting drive. It's easy to see why roller chain is the most efficient, economical drive for the majority of your power transmission jobs.



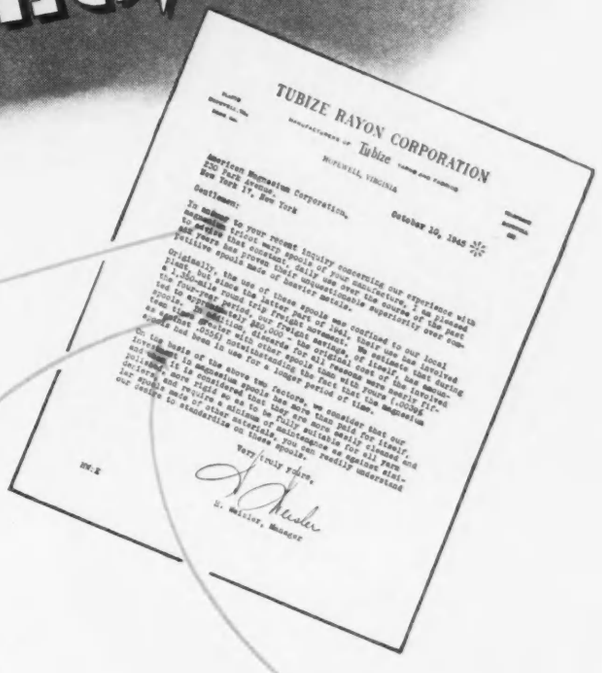
BALDWIN·REX
ROLLER CHAINS

Write for competent information and assistance on your specific drive problems, or for catalogs on Baldwin-Rex roller chains.

BALDWIN-DUCKWORTH DIVISION OF CHAIN BELT COMPANY
346 Plainfield Street, Springfield 2, Massachusetts

SAVES $20,000

Using Magnesium Tricot Beams


TUBIZE RAYON CORPORATION

Manufacturers of Tubize

HOPEWELL, VIRGINIA

American Magnesium Corporation,
230 Park Avenue,
New York 17, New York

October 10, 1945

Gentlemen:

To answer your recent inquiry concerning our experience with magnesium tricot warp beams, we are pleased to advise that constant, daily use over the course of the past six years has proved their unquestionable superiority over those we have used previously. Furthermore, spools made of lighter metal...

Originally, the use of these spools was confined to our local plant, but since the installation of our Chattanooga plant, we have found it economical to ship them there. Their use has enabled us to increase the length of warp on the beams, thereby increasing the production period between doffings. Because of the lighter weight of these spools, we have been able to reduce the weight of the beam itself, thereby reducing the freight charges. We estimate that during the four-year period, our freight savings of itself has amounted to approximately $20,000...

In the matter of the above two factors, we consider that our investment in magnesium spools has more than paid for itself, and then we have the added advantage of the spools being in use for a longer period of time.

It is magnesium spools that are now used for all standard and special warps as to the size and weight of the beam. We are now in a position to ship you any quantity of these spools on short notice. Please write us if you are interested in receiving our quotation on these spools.

Very truly yours,

D. Mosier, Manager

"... I am pleased to advise that constant, daily use over the course of the past six years has proved their unquestionable superiority.."

"We estimate that during the four-year period, our freight savings of itself has amounted to approximately $20,000 . . ."

"... we consider that our investment in magnesium spools has more than paid for itself, . . ."

Standardize on magnesium tricot beams, edge spools, jack spools, and bobbins . . . and you'll have cause to write letters of praise, too.

In these products made of Mazlo Magnesium, you have a combination of lightness, strength, durability and precision. They run true and stay that way, so yarns go on and off evenly; no distortion, cracking or splintering with age. Operating speeds can be greatly increased.

For information on where you may buy these products, call your nearby Alcoa sales office. Or write Aluminum Company of America, Sales Agent for Mazlo Magnesium Products, 1705 Gulf Building, Pittsburgh 19, Penna.

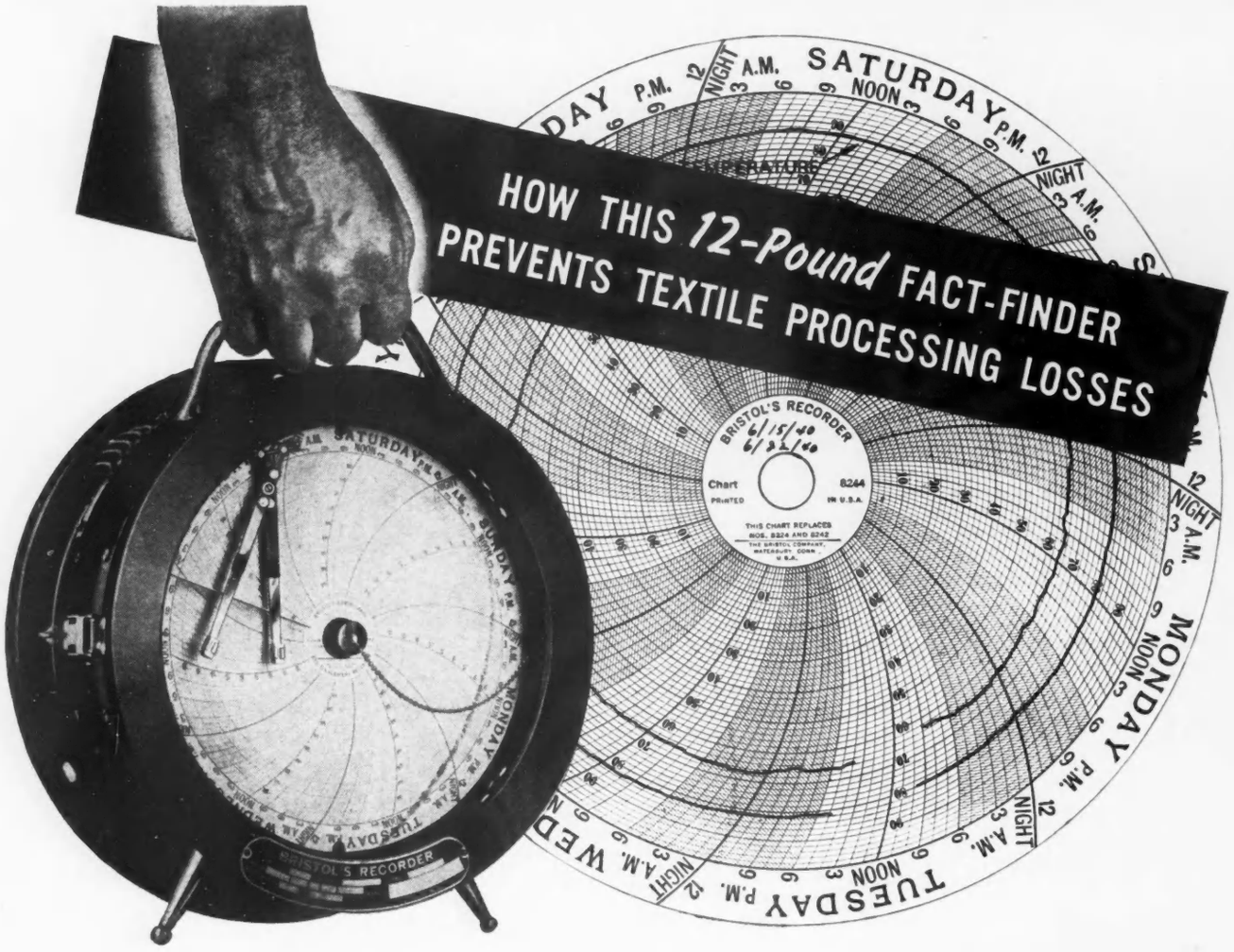
**This letter was written on October 10, 1945. Since that time Tubize Rayon Corporation has been merged with and has become a part of the Celanese Corporation of America.*

MAGNESIUM MAZLO PRODUCTS

REG. U.S. PAT. OFF.

AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA



BRISTOL'S PORTABLE THERMO-HUMIDIGRAPH gives you an exact, continuous record of humidity and temperature on 24-hour or 7-day charts

Fully self-contained and weighing only 12 pounds, this Bristol Portable Thermo-Humidigraph is easy to carry . . . can be hung up or set down wherever needed, indoors or out, for an overall survey of humidity and temperature conditions. By means of a new, improved hygroscopic measuring element, it records humidity in colored ink along with temperature on 8-inch charts that give you the whole story at a glance. No guesswork. No need for humidity tables, computations or wet bulb readings.

With this simple, compact instrument leading mills are now getting the detailed information needed to keep humidity and temperature at peak efficiency. Read what a few of the many mill executives have written about Bristol's Thermo-Humidigraph:

". . . *Helps maintain an even temperature and humidity . . . saving money by cutting down waste and giving a more uniform product.*"

". . . *Gives us a check on the machines used for correcting the humidity . . . we can keep a better check on the weight of the yarn.*"

". . . *The most economical method of providing a record of the relative humidity in our manufacture.*"

". . . *Elimination of doubt as to causes of trouble has enabled us to maintain uniform conditions and has reduced losses.*"

SERVES THE WHOLE FIELD

Bristol's Thermo-Humidigraph provides vital facts for every textile operation where temperature and humidity are factors . . . including carding, combing, roving, spinning, weaving, knitting and throwing . . . and for every type of textile, from cotton, wool and silk to the latest synthetics.

WRITE FOR DATA

In addition to the spring chart-drive model shown, Bristol's Thermo-Humidigraph is also furnished in electric-drive, with fan, for areas where there is not enough natural circulation to bring a representative air sample in contact with the temperature and humidity measuring elements; and, as a Humidigraph only, without the temperature-measuring element. For further information address THE BRISTOL COMPANY, 157 Bristol Road, Waterbury 91, Conn. (The Bristol Co. of Canada, Ltd., Toronto, Ont. Bristol's Instrument Co., Ltd., London, N. W. 10, England.)

BRISTOL

Engineers process control for better products and profits

AUTOMATIC CONTROLLING AND RECORDING INSTRUMENTS

DYESTUFFS

DYESTUFFS • CHEMICALS • INTERMEDIATES

A name symbolic of quality dyestuffs ever since the pioneering days of dyestuff chemistry.

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VAT DYES OF THE DOW CHEMICAL COMPANY

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
NEW YORK, N. Y.

Telephone: AShland 4-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

•

ESTABLISHED 1840

Vaportight CONDULETS

for electrical installations that are exposed to weather, moisture, steam or non-combustible dust

The illustrations show a representative selection from the hundreds of different Vaportight Condulets that are listed in Crouse-Hinds Condulet Catalog 2500. Many other Condulets can be furnished with gaskets that make them Vaportight and Weatherproof.

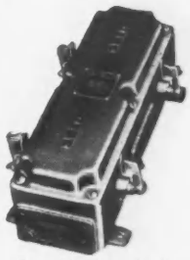
CONDULETS are made only by CROUSE-HINDS

No. 10
of a series of advertisements which demonstrate that CROUSE-HINDS "complete line" means much more than just a range of sizes—there is a wide variety of highly specialized types in each classification.

Type X Obround Condulet with Vaportight Gasket

Type AHG Vaportight Flexible Fixture Hanger

Type RCD-B Vaportight Lighting Fixture for wall mounting


Type YSW Vaportight Circuit Breaker Condulet

Type FSC Condulet with Vaportight Gasket

Type FS Vaportight Switch Condulet

Type VFC Vaportight Gauge Lighting Condulet

Type GSC Condulet with Vaportight Gasket

Type FD Vaportight Switch Condulet

Type ARB Vaportight Lighting Fixture for GRF Series Condulets

Type V Vaportight Lighting Condulet for mounting on machines

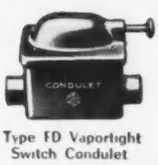
Type VXHA Vaportight Lighting Condulet with flush hubs

Type WV Vaportight Lighting Condulet with Fresnel Lens

Type DVS Dust-Tight and Vaportight Circuit Breaker Condulet

Type GRT Condulet with Vaportight Gasket

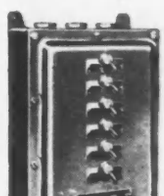
Type V Vaportight Heavy Duty Lighting Condulet with Shatterproof glass for use in the food industry


Type FD Vaportight Switch Condulet

Type GS Vaportight Lighting Fixture for GS Series Condulets

Type VR Vaportight Lighting Condulet for mounting on a hand rail

Type VJ Vaportight Lighting Condulet

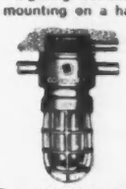

Type DVS Dust-Tight and Vaportight Circuit Breaker Condulet

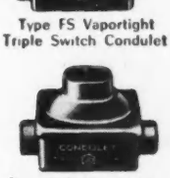
Type C Obround Condulet with Vaportight Switch

Type FS Two-Gang Vaportight Switch Condulet

Type VDA Vaportight Tank or Vat Light

Type VG Vaportight Lighting Condulet


Type VXJ Vaportight Lighting Condulet for making extensions from concealed conduit wiring


Type FS Vaportight Triple Switch Condulet

Type FSC Two-Gang Tandem Condulet with Vaportight Switch and Threaded Cap Plug Receptacle

Type ARC Vaportight Lighting Fixture for Obround Condulets

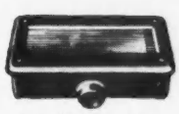
Type VLG Vaportight Gauge Lighting Condulet Fluorescent

Type DVP Dust-Tight and Vaportight Panelboard

Type FSC Vaportight Push Button Station Condulet

Type GS Vaportight Lighting Fixture for GS Series Condulets

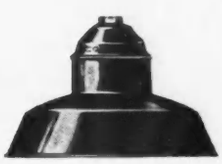
Type VS Vaportight Hand Lamp with Rubber Handle


Type FS Vaportight Lighting Fixture

Type FSC Vaportight Plug Receptacle Condulet

Type VC Vaportight Lighting Condulet

Type VPH Vaportight Indirect Lighting Condulet


Type VDB Vaportight Lighting Condulet 500-Watt

Type VDA Vaportight Lighting Condulet with Dome Reflector

Type V Vaportight Lighting Condulet with Dome Reflector

Type VDA Vaportight Lighting Condulet with Angle Reflector

A Nationwide Distribution Through Electrical Wholesalers

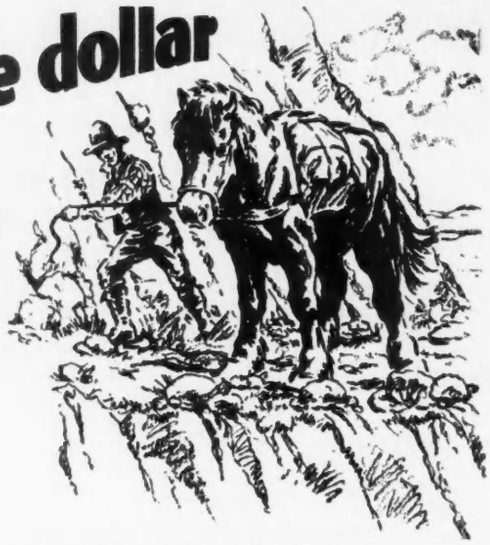
CROUSE-HINDS COMPANY
Syracuse 1, N. Y., U.S.A.

Offices: Birmingham — Boston — Buffalo — Chicago — Cincinnati — Cleveland — Dallas — Denver — Detroit — Houston — Kansas City — Los Angeles — Milwaukee — Minneapolis — New York Philadelphia — Pittsburgh — San Francisco — Seattle — St. Louis — Washington. *Resident Sales Engineers:* Albany — Atlanta — Charlotte — Indianapolis — New Orleans
CROUSE-HINDS COMPANY OF CANADA, LTD., *Main Office and Plant:* TORONTO, ONT.

CONDULETS · TRAFFIC SIGNALS · AIRPORT LIGHTING · FLOODLIGHTS

To get *more* for your valve dollar

consult POWELL *Engineering*



No one would expect a burro to pull a load that requires a heavyweight draft horse. But a sure-footed burro is just right for carrying a pack on a mountain trail where the power of a draft horse would be wasted.

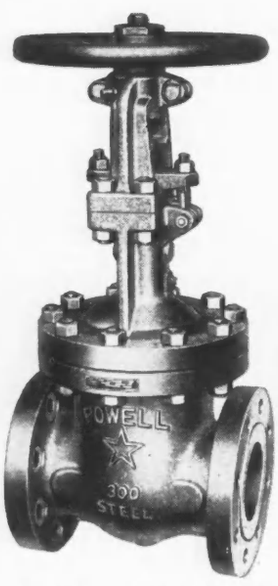
And yet when it comes to valves, such "misapplication" is often encountered. *Many cases of failure are directly due to expecting service from a valve which it was not designed to give.* Consequent replacements are costly. On the other hand, it is not sound economy to use a valve of more expensive construction than the particular service requires. The Powell Line* of Bronze, Iron, Cast Steel and Corrosion Resistant Valves, is so *complete* that there's a POWELL Valve that's *just right* for every flow control condition encountered in modern industry. When you need valves for new installations or for replacements, don't risk "misapplication". Consult POWELL Engineering and *get more for your valve dollar.*

The Wm. Powell Company, Cincinnati 22, Ohio

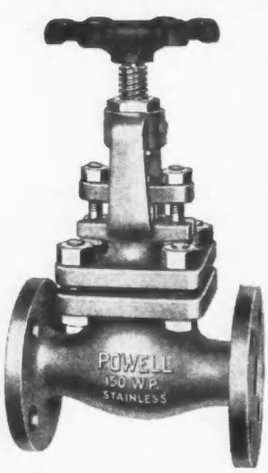
DISTRIBUTORS AND STOCKS IN ALL PRINCIPAL CITIES

***In writing for catalogs kindly specify the service conditions under which the valves, in which you are interested, must operate.**

Large Iron Body Bronze Mounted Gate Valve for 125 pounds W. S. P. Made in sizes 2" to 30", incl. Has flanged ends, outside screw rising stem, bolted flanged yoke and taper wedge solid disc. Taper wedge double discs can be provided in sizes 2" to 12", incl. Seat rings and stem are bronze. Disc is bronze in 3½" and smaller size valves and bronze faced in the larger sizes. Also available in All Iron for certain services.

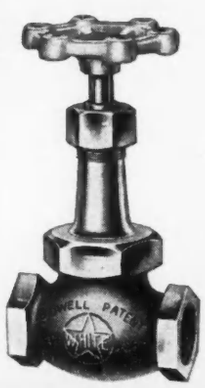


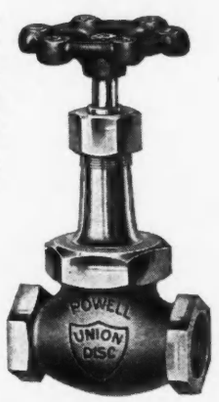
Class 300-pound Cast Steel Gate Valve. Has flanged ends, outside screw rising stem, bolted flanged yoke and taper wedge solid disc. Powell Cast Steel Valves of all types are available in pressure classes from 150 to 2500 pounds, inclusive.



Small Bronze Globe Valve for 200 pounds W.S.P. Made in sizes ¼" to 3", incl. Has screwed ends, union bonnet, renewable, specially heat-treated stainless steel seat and regrindable, renewable, wear - resisting "Powellium" nickel-bronze disc. A long-life valve, designed to stand up under severe service conditions.

Stainless Steel Gate Valve for 150 pounds W. P. Has flanged ends, outside screw rising stem, bolted flanged yoke - bonnet and taper wedge solid disc. This is one of many special Powell designs for handling corrosive media. Available in a wide range of corrosion resistant materials.





Small Bronze Globe Valve for 150 pounds W. S. P. Made in sizes ⅛" to 3", incl. Has screwed ends and union bonnet. Regularly furnished with renewable vulcanized composition disc for steam service, but special discs are available for other services.

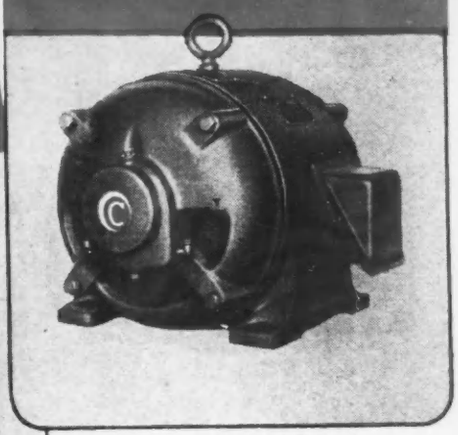
POWELL VALVES

Get Protection

Against Atmospheric Hazards With One of CENTURY'S 4 Kinds of Motor Frames . . . . . .

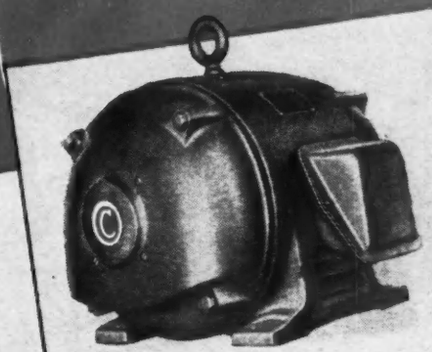
Adequate protection against practically any destructive atmosphere is assured by one of the four kinds of construction available on Century modern industrial motors. On your job, the right protection for the vital parts of Century motors assures long life and trouble-free performance.

1 Century Form J open rated, general purpose motors will give the protection needed on most ordinary installations. Because the upper half of the motor frame is closed, falling chips or small solids and dripping liquids cannot fall into the motor.



Form J — General Purpose Application

2 Century Splash Proof motors give you protection against splashing or dripping water—are ideal where plants and machinery are washed down with a hose, or for outdoor installations.

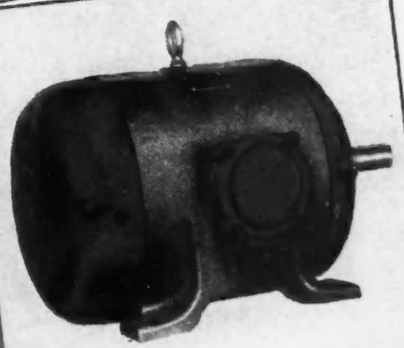


◀ Splash Proof Protection

3 Century Totally Enclosed Fan Cooled motors keep out dust, dirt, grit, abrasives, oil, mist or fog because the vital parts of the motor are isolated from the outside atmosphere.

◀ TEFC—Protects Against Destructive Dust, Grit, Powdered Materials

4 Century Explosion Proof motors are used where the atmosphere is charged with explosive materials, such as gases, or grain dusts held in suspension.



▲ Explosion Proof

458

In addition, special Century insulation may be provided for installations where the atmosphere is heavily charged with corrosive or otherwise acid, alkali, or other destructive fumes.

These protective Century motor features may be combined with a wide range of motor types and sizes to provide a perfect combination for nearly any application. Century motors are built in sizes from 1/20 to 600 horsepower.

Specify Century Motors on all your electrically powered equipment. Engineered to the functional characteristics of the machines they drive to assure top performance—Century Motors are a vital factor in producing a better product at a lower cost.

Century C MOTORS

CENTURY ELECTRIC CO.

1806 Pine St. St. Louis 3, Mo.

Offices and Stock Points in Principal Cities

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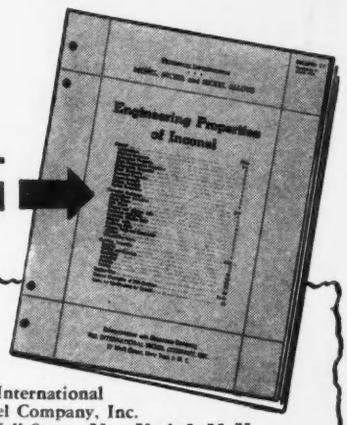
...Your Free Guide

to the Metal you'll be using more and more

GET THE FACTS...
MAIL THE COUPON



Brief, yet complete, this bulletin is an eye-opener for busy textile men.

In 16 pages of charts, graphs, illustrations and *facts,* the booklet tells about Inconel,* the rustproof nickel alloy that stands up in all dyeing processes.

Inconel is suitable for use with acid or acid chrome dyes, as well as with direct, vat, sulfur and developed colors. It is resistant to corrosion by dilute hypochlorites, sizing and similar compounds and solutions. It may be safely employed with peroxide bleaches.

Although it is both stronger and tougher than structural steel, Inconel is readily fabricated and welded. Use Inconel, and you'll have extremely rugged, long-lasting equipment.

Full information about this better construction material for textile equipment is contained in Technical Bulletin T-7, *Engineering Properties of Inconel.*

Mail the coupon for your free copy. Keep it handy for reference. Let it help you in locating places where Inconel can be used to advantage in your plant.

The International
Nickel Company, Inc.
67 Wall Street, New York 5, N. Y.

Please send my free copy of Technical Bulletin T-7, *Engineering Properties of Inconel,* without obligation.

Name.....

T-W. 7-46

Title.....

FILL IN — PIN TO LETTERHEAD — MAIL

THE INTERNATIONAL NICKEL COMPANY, INC., 67 Wall Street, New York 5, N.Y.

INCONEL *(80 NICKEL — 40 CHROMIUM)*

5 reasons to specify TECA

TECA REDUCES SHRINKAGE

A fiber with low moisture absorption, Teca undergoes little or no change when washed or cleaned. A high Teca content tends to stabilize a fabric, decreasing its shrinkage.

●

TECA IS CRUSH RESISTANT

and sag resistant. The natural resilience of this fiber helps to build a fabric with superior shape-holding qualities.

●

TECA INSULATES

or ventilates, depending on the weave. Its tiny crimped fibers help to create a porous texture in the fabric.

●

TECA IS NONIRRITATING

Teca has the inherent softness and suppleness typical of acetate rayon, is pleasantly smooth to the skin.

●

TECA BLENDS WELL

with silk, wool, cotton, or viscose rayon, offering almost limitless textural variety as well as novel cross-dyed effects.

Eastman

CRIMPED ACETATE RAYON

For further information about Teca, consult A. M. TENNEY ASSOCIATES, Inc., 10 East 40th Street, New York 16, Sales Representatives for Tennessee Eastman Corporation (Subsidiary of Eastman Kodak Co.), Kingsport, Tennessee

How we improved the weaving quality of our rayon warps...

By P. J. Geraghty, Manager, Hoosac Mill, North Adams, Mass.

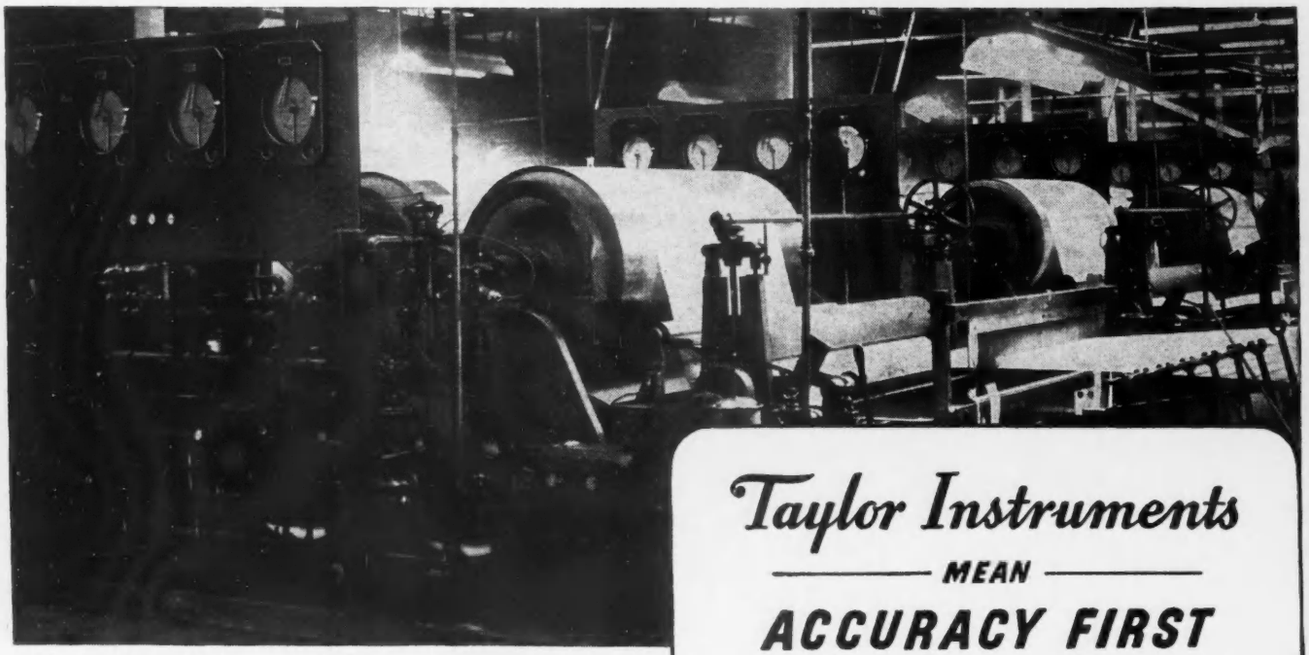
"We are satisfied that our installation of Taylor Instrument Companies' controls, together with recording instruments, has contributed greatly to improvement in uniformity of our slashing and consequently, improvement in weaving quality of our rayon warps."

THANKS for the kind words, Mr. Geraghty. We're always glad to hear these things from textile men—proud to know that more than ever, Taylor Accuracy is pitching in to improve quality and uniformity.

Take a look at the picture below taken at Hoosac Mill, weavers of fine rayon fabrics. Every slasher has a battery of four Taylor Fulscope Recording Temperature Controllers maintaining the desired temperatures in the drying cylinders. The Fulscopes achieve uniform drying by automatically controlling the steam inlet and condensate outlet on each cylinder. And each Recording Controller gives Mr. Geraghty a permanent, minute-by-minute record of cylinder temperatures.

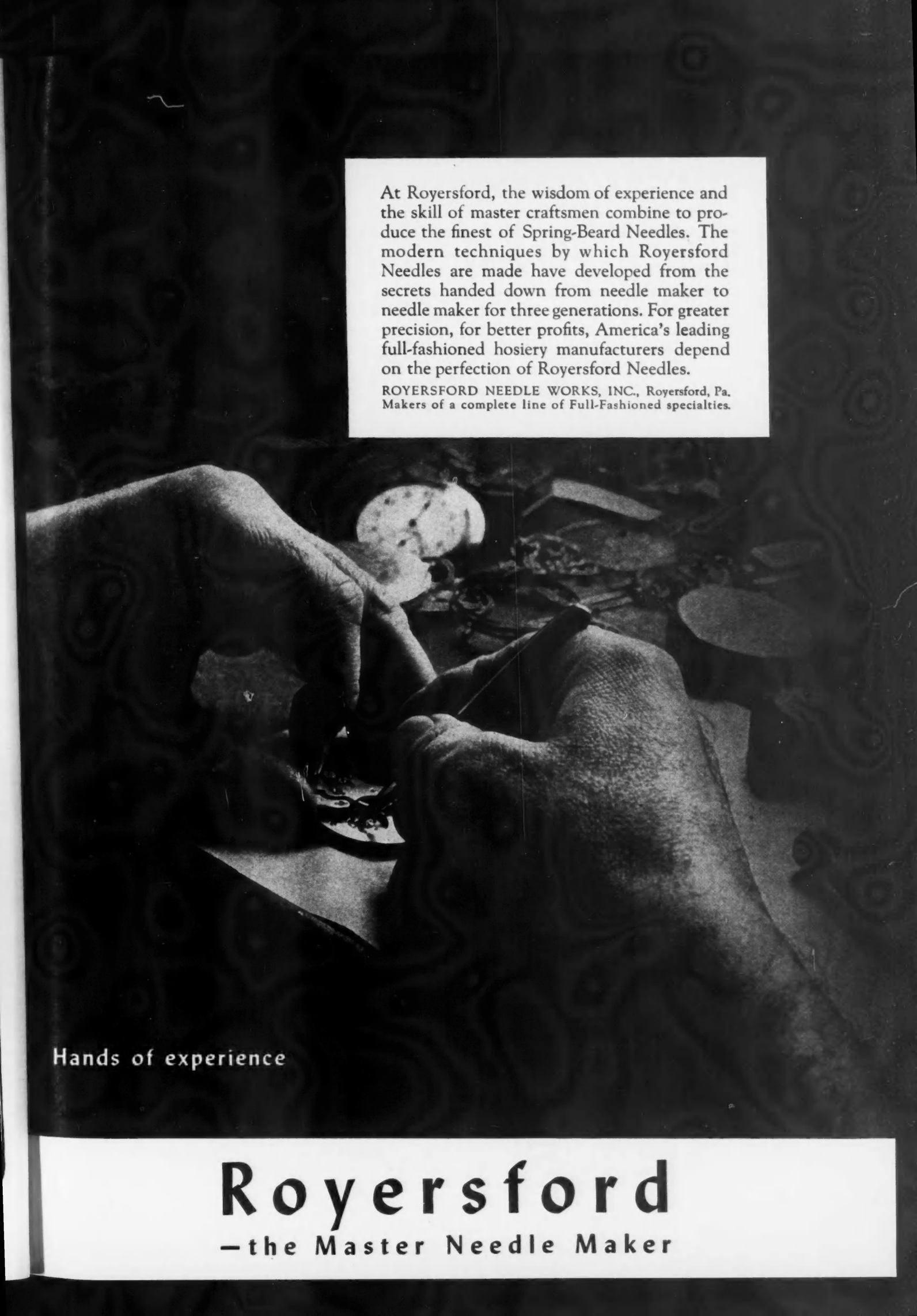
They also use Taylor Fulscopes to control level *and* temperature in the size box and to control temperatures in the size cooking and storage kettles (not shown).

Ask your Taylor Field Engineer to show you how automatic Taylor Controls can help maintain uniform high quality in *your* product. Or write Taylor Instrument Companies, Rochester, N.Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*



Taylor-Controlled rayon slashers at Hoosac Mill, North Adams, Mass. Taylor Fulscope Recording Temperature Controllers on the control panels are maintaining precise temperatures in the drying cylinders.

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY



At Royersford, the wisdom of experience and the skill of master craftsmen combine to produce the finest of Spring-Beard Needles. The modern techniques by which Royersford Needles are made have developed from the secrets handed down from needle maker to needle maker for three generations. For greater precision, for better profits, America's leading full-fashioned hosiery manufacturers depend on the perfection of Royersford Needles.

ROYERSFORD NEEDLE WORKS, INC., Royersford, Pa.
Makers of a complete line of Full-Fashioned specialties.

Hands of experience

Royersford

—the Master Needle Maker

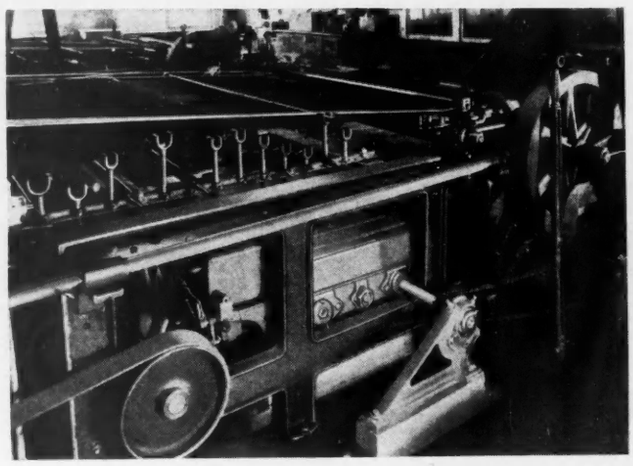
Automatic Tension Control

WITH REEVES SENSITIVE PISTON-TYPE HYDRAULIC REGULATION

pressure of only 1 to 2 ounces activates this indicator lever to effect speed changes

To run cotton, wool or any synthetic material in a continuous process, *without stretch* on cloth, install REEVES Hydraulic Automatic Speed Control. Consisting of the time-tested REEVES Variable Speed Transmission with piston-type, hydraulic regulation, this is the simplest, most dependable drive and control available. It can be serviced and maintained by any mechanic. No special tools nor training are necessary.

So sensitive is REEVES Hydraulic Automatic Control that pressure of only 1 to 2 ounces through follower roll, dancer roll or other activating force will produce changes in speed to regulate tension automatically and precisely to the degree desired. Already being widely used in range finishing—on beaming warpers, slashers and other winding processes. Our "field" engineers are thoroughly experienced in textile processes. Write us for special bulletin on REEVES Hydraulic Automatic Speed Control and ask for copy of complete catalog W-450.



Illustrated above is a REEVES Transmission with hydraulic automatic control driving loom beam of slasher. The sensitive hydraulic control lever is connected to a very simple follower roll which bears lightly against the yarn on the loom beam. Through its hydraulic control, the REEVES unit automatically reduces the r.p.m. of the loom beam and maintains constant y.p.m. surface speed as the beam increases in diameter. Reduces yarn stretch in slasher to less than 1%.

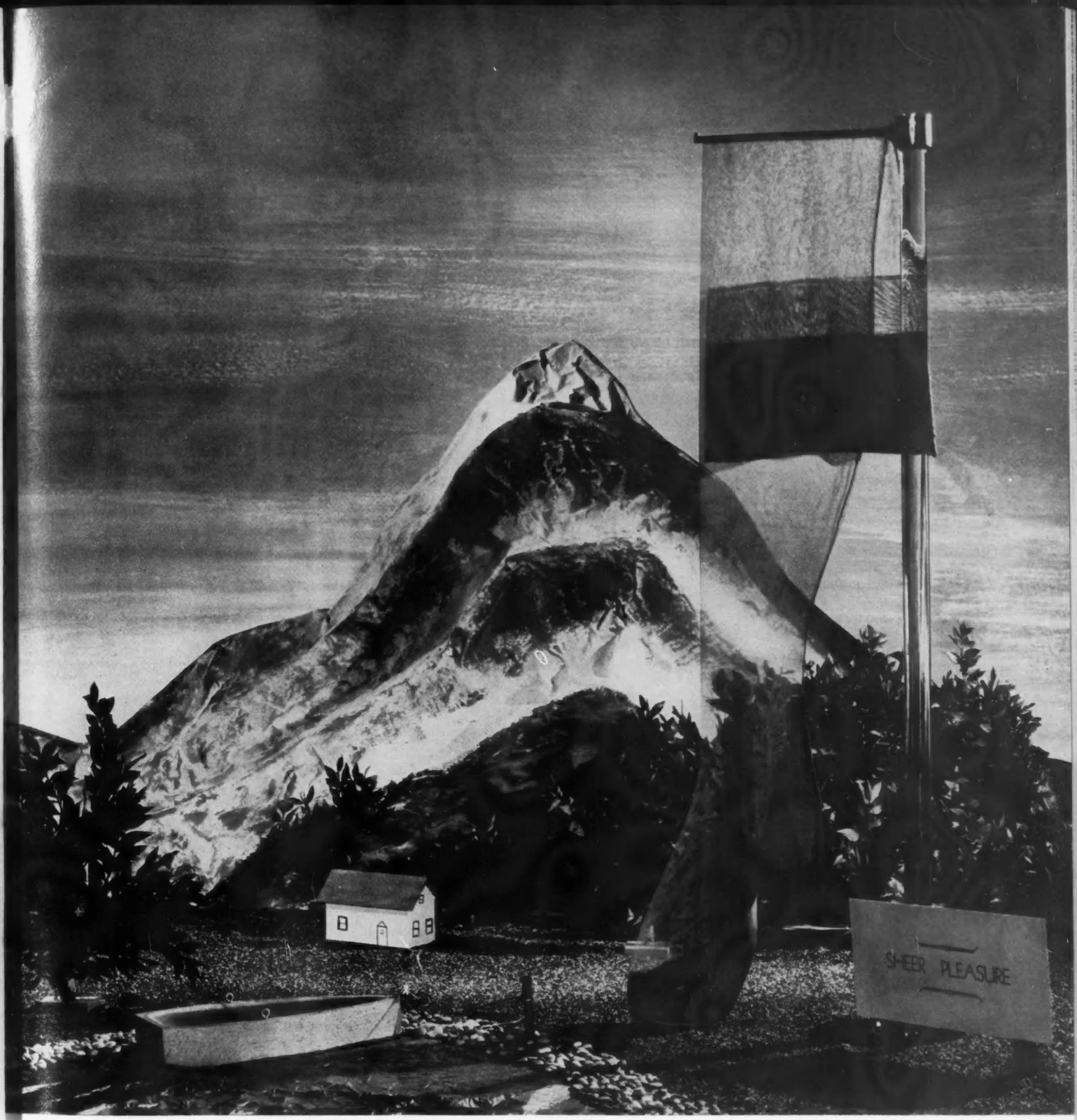
REEVES PULLEY COMPANY • COLUMBUS, INDIANA

Recognized leader in the specialized field of Speed Control Engineering.

Accurate Variable

REEVES Speed Control

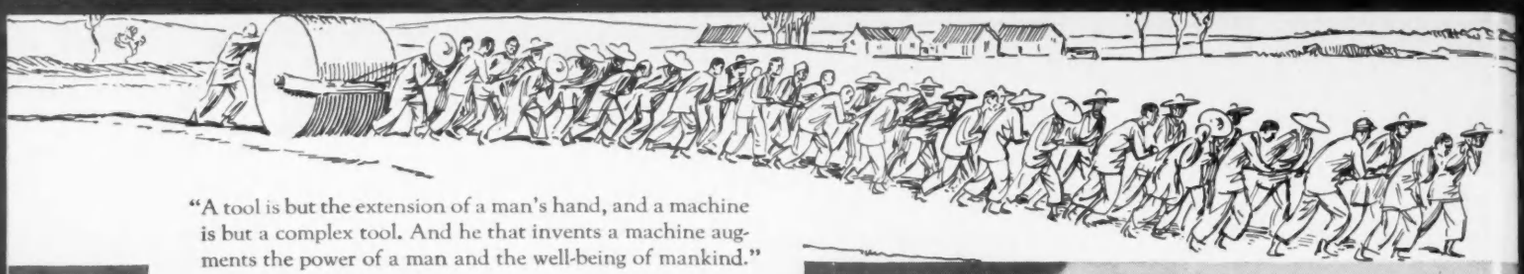
Gives the Right Speed for Every Job!



Sheer Pleasure . . . In a flawlessly fashioned stocking fabric there's sheer pleasure for the woman who wears it, for the mill that makes it. TMW Needles are Fixture Drawn,* an exclusive TMW patented process which holds the needles straight and true. Assure greater profits through higher quality production of full-fashioned stockings. *And remember: Regular Reneedling Pays! Let us put your needle bars in shape for faster, more accurate, more profitable knitting.*

* Reg. U. S. Pat. Off.

TEXTILE MACHINE WORKS • READING, PA.



"A tool is but the extension of a man's hand, and a machine is but a complex tool. And he that invents a machine augments the power of a man and the well-being of mankind."

Modern machines have made Americans the world's most efficient workers, and with every increase in efficiency, the worker has increased his share of the good things of life and the time in which to enjoy them. In Full-Fashioned Knitting, the READING Machine is the machine that insures the high standard of living of the thousands of skilled workers in the industry.

TEXTILE MACHINE WORKS • READING, PA.

CLOSER PICKING
LEAST WASTE

FOR LONG AND SHORT WOOLS

SARGENT'S MULTIPLEX BURR PICKERS

Picks, Burrs, Cleans the Wool Lap on BOTH SIDES

SARGENT pioneered the Burr Picker and built the first machine in 1860. Modern Multiplex Burr Pickers, by SARGENT, perform with the highest efficiency obtainable today in closer picking, without loss of fiber, and with least waste.

These machines are especially effective for burr waste, card waste, and burry or seedy wool prior to carding. They have been successfully used in some instances for the burring of greasy mohair matchings. Easy adjustment of the rolls permits accommodation of various types of stock.

All high speed moving parts are mounted on ball bearings. SARGENT BURR PICKERS are made in two widths, 36 in. and 48 in., with the latter having a capacity of 400 to 450 lbs. of wool or waste per hour.

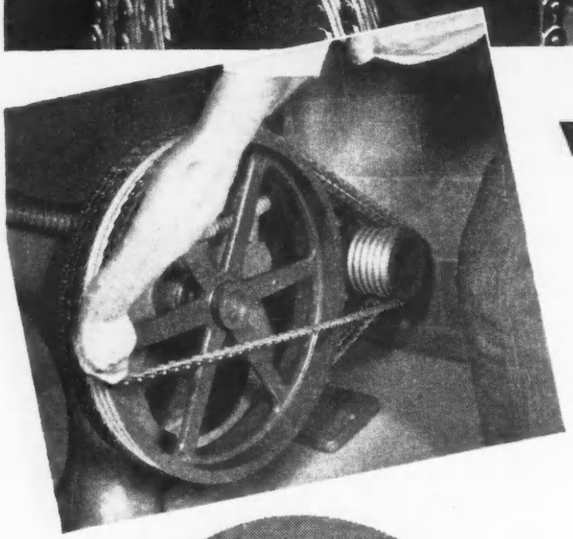
SARGENT'S MULTIPLEX BURR PICKING is a 4-POINT CLEANING PROCESS:

1. The feed rolls and main cylinder picks and opens the wool, and removes shives, straw, other waste matter.
2. Air currents from the exhaust fan removes light dust and dirt.
3. The wool, in open and lofty condition, is delivered to the first burr cylinder which exposes the burrs and waste. A high speed guard removes and throws clear the burrs and waste on the upper side of the wool lap.
4. The second burr cylinder guard picks and cleans the opposite or under side of the wool lap.

Write us for complete information

C. G. SARGENT'S SONS CORPORATION

GRANITEVILLE, MASSACHUSETTS, U.S.A.



VEELOS ON REELS

...Cuts Machine Downtime
...Cuts Belt Costs

TAKE out your watch and note the time required to replace an endless V-belt in your plant . . . then check with Veelos. With Veelos, the link V-belt, you can uncouple any desired belt length . . . couple it endless . . . install it on any drive *in just a few minutes.* The comparison, we think you'll agree, shows that Veelos "packaged" on reels is a big time saver.

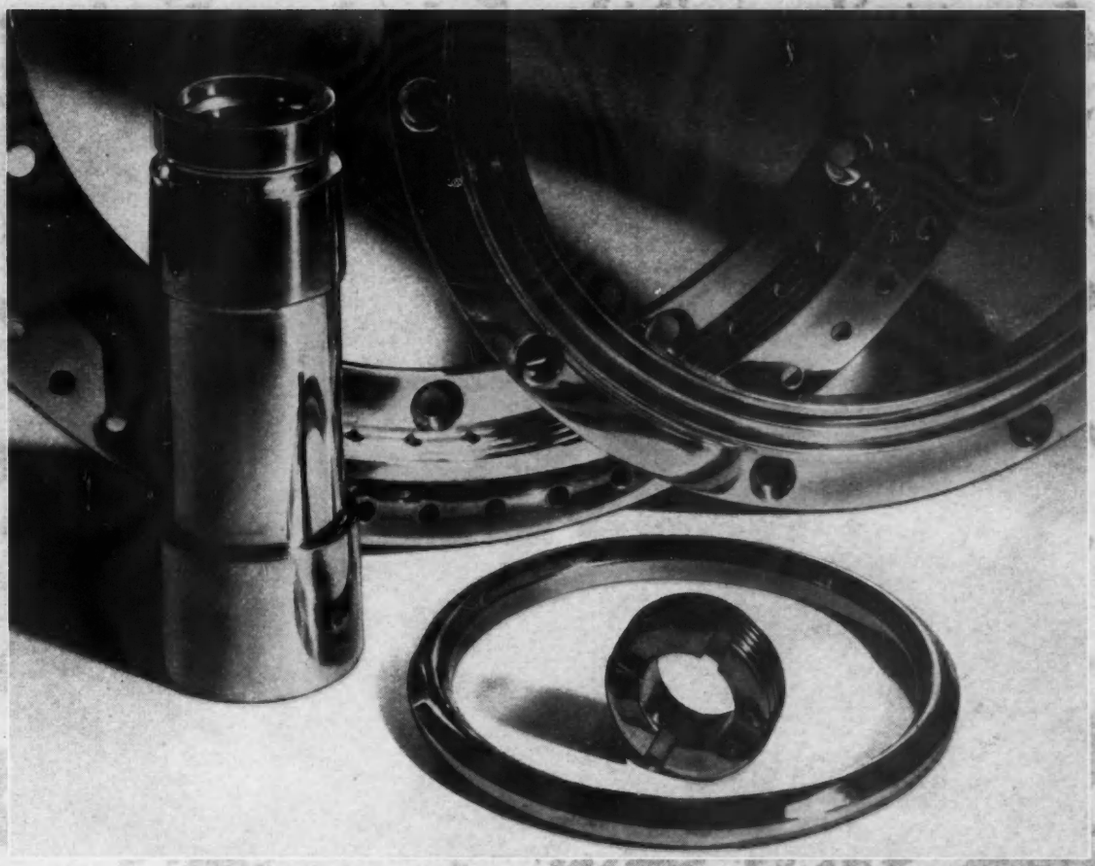
A single reel of Veelos eliminates costly investment in a multitude of sizes of spare V-belts . . . simplifies stock records . . . ends stockroom snarls caused by a confusing assortment of sizes. Each reel of Veelos holds 100 feet and requires only a negligible amount of space for storage.

Easy to take off the reel . . . easy to put on the drive, Veelos eliminates one cause of long, unprofitable work stoppages—helps keep production rolling. Speed up belt replacement . . . get real belt savings right off the reel with Veelos.

VEELOS
THE LINK
V-BELT

Adjustable to any Length
Adaptable to any Drive

MANHEIM MANUFACTURING & BELTING CO.
MANHEIM, PENNSYLVANIA



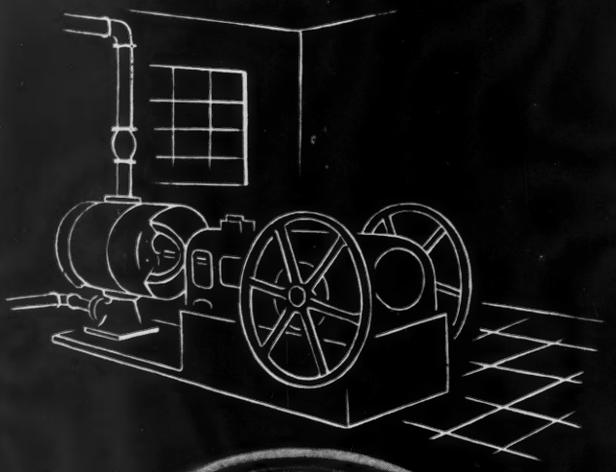
Regardless of alloy, shape or size the quality of Bunting Bronze Bearings is uniform. Continual chemical and physical checks and exacting foundry control by a competent metallurgical laboratory assure this. The Bunting Brass & Bronze Company, Toledo 9, Ohio. Branches in Principal Cities.

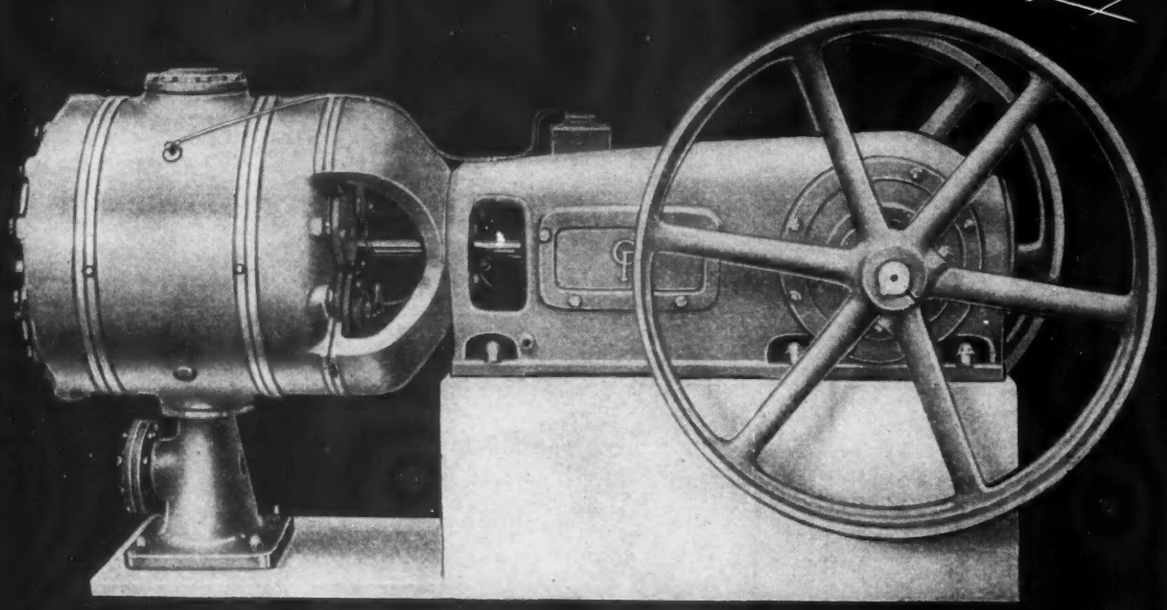
Bunting

44

BRONZE BEARINGS ☆ BUSHINGS ☆ PRECISION BRONZE BARS

Extra Protection In AUTOMATIC Water Relief





CP SINGLE AND DUPLEX DRY VACUUM PUMPS

ONE of the discharge assemblies in each end of the cylinder of a CP Horizontal Vacuum Pump is arranged as a special automatic valve. Should a slug of liquid be accidentally drawn into the cylinder the relief valve assembly will lift off its seat against a heavy spring, providing extra escape area for the liquid and minimizing the danger of damage to the pump. This is an exclusive CP feature.

The durable Simplate Valves are located in both cylinder heads parallel to the piston face, affording low valve clearance and high volumetric efficiency at high vacua.

Arranged for belt, motor or steam drive, CP Horizontal Single and Duplex Dry Vacuum Pumps are available in capacities up to 15,000 c.f.m. Two-stage pumps available for very high vacua. Write for complete information.

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PNEUMATIC TOOLS
ELECTRIC TOOLS
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ROCK DRILLS

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TOOL CP COMPANY
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AIR COMPRESSORS
VACUUM PUMPS
DIESEL ENGINES
AVIATION ACCESSORIES

A Bodyguard for Your Customer "Futures"
MODERN Standard Durene
In the competitive days ahead you can hold your customers with Modern STANDARD Durene. The uniformity and free-running smoothness of this quality mercerized yarn will give you speedier knitting production, more comfortable, better looking, better wearing garments . . . all factors in keeping customers satisfied.
Modern STANDARD Durene is the product of nearly seventy years of cotton yarn manufacturing with our complete control of all processes, plus our recent war experience, plus our constant research to improve quality. Plan with Modern STANDARD Durene and keep customers on your side.
STANDARD DURENE • SELO • MERCERIZED COMBED SAKS • THREADS
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UTICA, N. Y. P. O. Box 105
Representatives in other principal American Cities and in Central and South American Countries

Overseer of Weaving of a prominent New England mill (left) consulting with a Gulf Service Engineer on loom lubrication.

"GULF lubricants are doing an excellent job for us," says this Overseer of Weaving. "Month after month our cost and production records tell a story of the benefits of proper loom lubrication—more yardage, greater over-all efficiency, and lower maintenance expense."

With Gulf quality oils and greases, applied as recommended by Gulf Lubrication Service Engineers, every mill room operates at top efficiency, and maintenance and power costs are held at rock-bottom levels.

For you not only get the advantages of superior lubricating value and longer life that are built into Gulf lubricants, but also the helpful counsel of Gulf Service Engineers, specialists in scientific textile mill lubrication.

Call in a Gulf Lubrication Service Engineer today and ask him to recommend the right lubricant and its proper application for each bearing and moving part in your mill. You can rely upon his recommendations—they are based on broad experience with equipment similar to yours.

Gulf Oil Corporation · Gulf Refining Company

GULF INDUSTRIAL LUBRICATION

Division Sales Offices:
Boston · New York · Philadelphia · Pittsburgh · Atlanta
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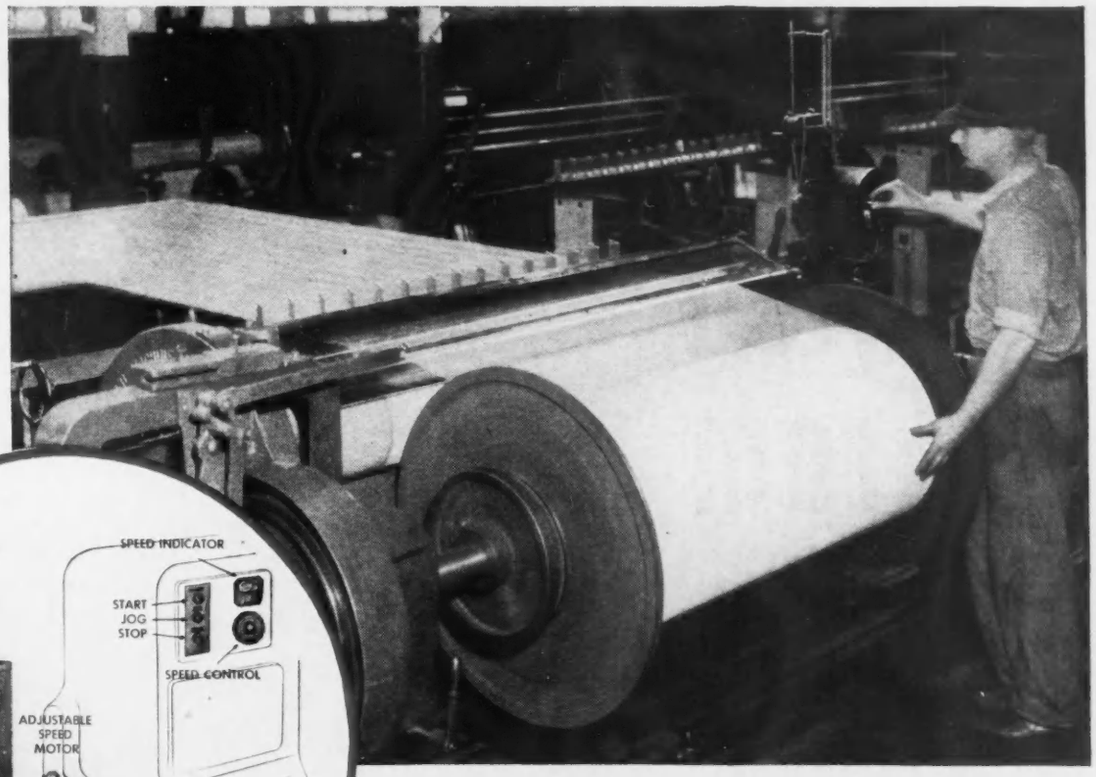
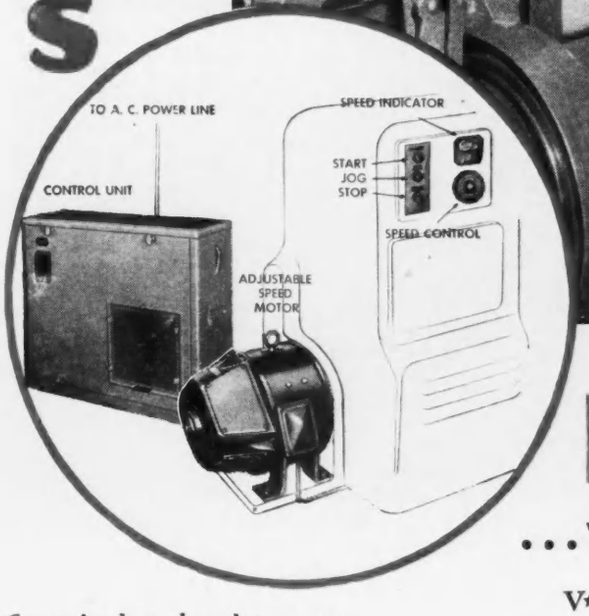
SPEEDS





Conveniently-packaged, space-saving V★S Drives are available in either Rotating or Electronic Systems or a combination of both systems. Can be built right into many types of textile mill equipment.

to meet the requirements of
PRODUCTION
...with RELIANCE V★S DRIVE

V★S, the *All-electric, Adjustable-speed Drive operating from A-c. Circuits,* saves money in every textile mill it enters. It offers an unlimited range of stepless speed changes with amazingly smooth acceleration and deceleration. Speeds controlled the V★S way match requirements *exactly* at every point of textile processing—with flow of production increased as a result.

Other V★S performance features can help *you* step up quantity and quality of output. Its starting, stopping or reversing from nearby or remote control stations, for example. Also the way in which it can maintain proper tension automatically. Write today for Bulletin 311—the money-saving story of V★S Drive.

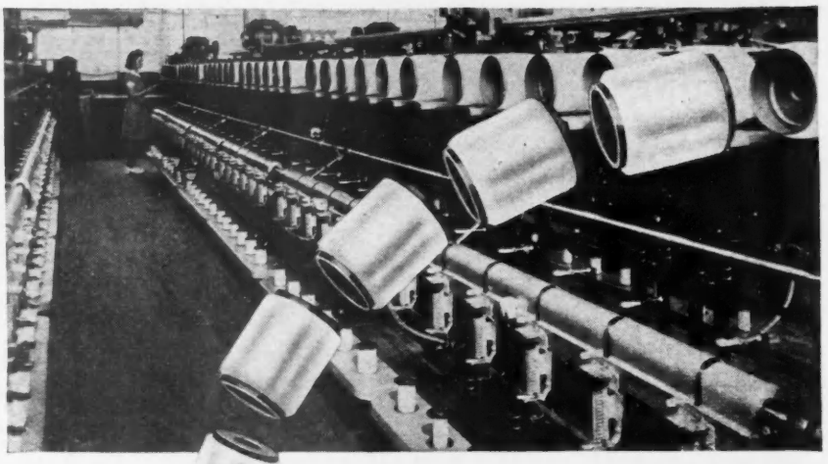
RELIANCE V★S DRIVE

RELIANCE ELECTRIC & ENGINEERING CO.
1086 Ivanhoe Road • Cleveland 10, Ohio

Birmingham • Boston • Buffalo • Chicago • Cincinnati • Denver • Detroit • Gary • Greenville • Houston
Kalamazoo • Kansas City • Knoxville • Los Angeles • Milwaukee • Minneapolis • New Orleans
New York • Philadelphia • Pittsburgh • Portland, Ore. • Rockford, Ill. • St. Louis • San Francisco
Seattle • Syracuse • Tampa • Tulsa • Washington, D. C.

RELIANCE A-C D-C MOTORS *"Motor-Drive is More Than Power"*

Cone Nylon From Sizing Tubes Without Re-draw



This photo used through courtesy of Synthetic Yarns, Inc., Lowell, Mass.

Here is the way Nylon is handled by the dozens of throwsters who have adopted the Universal System of Sizing and Coning.

LEESONA

Reg. U.S. Pat. Off.

On the No. 250 Sizing Machine, the yarn is wound onto 6″-diameter tubes under light and uniform tension.

A heart-shaped cam connected to all spindles produces a "scatter-wind" which distributes the yarn evenly over the length of the tube, with long and short traverses alternating. The large tube diameter makes it possible to have a thin layer of yarn for rapid and uniform conditioning. The tapered end and light tension contribute to free delivery on the coning machine.

On the No. 50 Coning Machine, the yarn is wound directly from the sizing tubes onto pineapple cones, also under light and uniform tension.

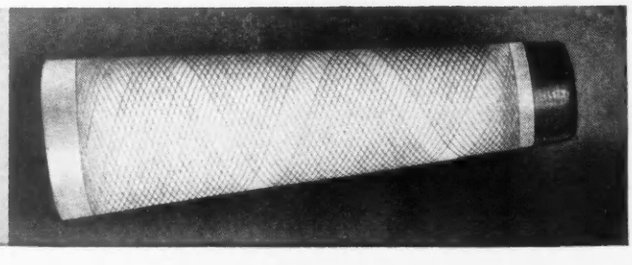
The new Roller Bail distributes pressure over the entire length of the cone to obtain ideal density from 45 to 50. Positive gear gain gives uniform open-wind spacing of yarn coils. The Universal Pineapple Cone is considered the ideal shape for free delivery to knitting machines.

On both machines, tension is kept at the desirable minimum by reducing the number of contact points and turns and by eliminating vibration and quick starts.

Universal Winding Company at Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles, Montreal or Hamilton.

23.6.10

MORE THAN 90% OF ALL SYNTHETIC FILAMENT YARN ON CONES IS PRECISE-WOUND ON THE FLEXIBLE 50



TEXTILE WORLD

JULY, 1946 · VOL. 96 · NO. 7

DEMAND FOR MILLS

Affects Quarter of Industry

HIGHLIGHTS: *All kinds of textile plants are being bought for investment, for merger, for the machinery they contain—Some observers foresee big companies the rule—Merger epidemic is cyclical along with prosperity—Vertical integration in textiles has been feature of amalgamations—Lately, horizontal integration has come to fore—More advertising of textiles to the consumer likely to result—Progress through research also aided.*

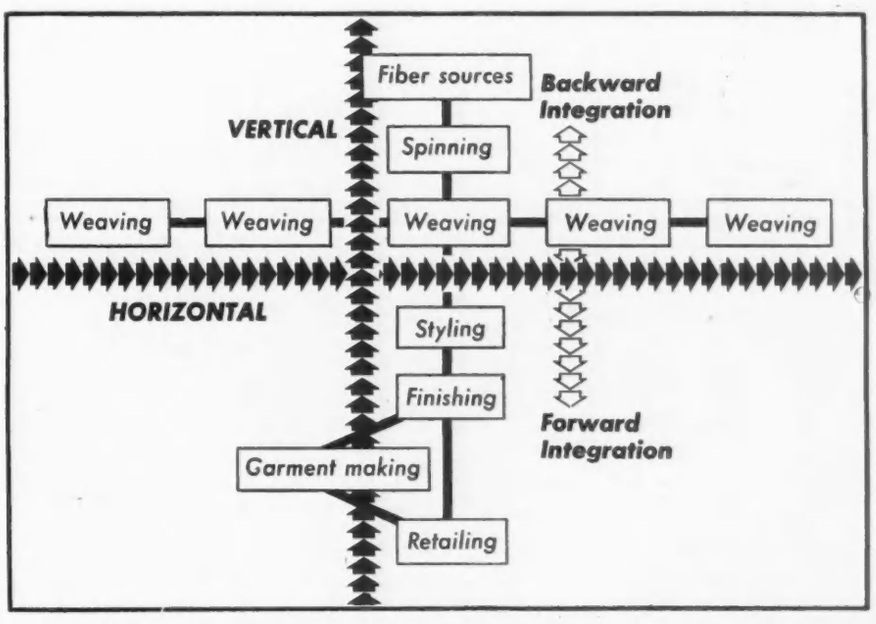
By WILLIAM B. DALL
Managing Editor, TEXTILE WORLD

NEARLY 25% OF THE EQUIPMENT in the cotton-textile division has changed hands during the last 2½ years; and the rate has been only slightly less rapid in the wool, rayon, knitting, and finishing branches.

The value of textile securities has gone up during the same period by 100 to 150% according to some group averages, and individual cases of ten to twenty times that gain can be found.

The uncommon demand for textile mills evidenced by these facts is due not only to widespread belief that mills were and are good investments for the period that lies ahead, but to the broad movement of integration which has come on the industry since early 1944. Belief is prevalent that the industry is entering an era of larger mill groups and that consequently fewer men will control the majority of its equipment and its products. Some extremists even forecast that the time is coming when a mere five or six companies will dominate the textile field just as has come to pass in the automobile industry. Others are convinced, however, that there will still be opportunities in textiles for the individual with small capital for a substantial number of decades.

Whatever the future holds, one may be sure that presently existing plants will play a prominent part in it. There may be new groupings of old companies, but the units will be pretty much as they are now except for gradual evolu-



Diagrammatic plan showing types of vertical and horizontal integration.

tion toward modernization and betterment.

INTEGRATION. Integration, such as has been going on at increasing tempo since early 1944, is not new in textiles. It is of two kinds: *Vertical* integration, which is the joining together of additional consecutive steps in manufacture or distribution, either forward toward the ultimate consumer or backward toward the raw material; *horizontal* integration, which is the merging of numbers of plants at the same level of production. The ultimate in vertical integration would be ownership by one management of cotton plantations and gins (or sheep, or forests, pulp mills, and rayon plants), yarn mills, weaving mills, finishing plants, converting departments, garment factories, jobbers, and retail stores. The writer does not know of any completely integrated textile business in this category. The ultimate in horizontal integration would be, for example, the merger of all sales-yarn plants, all woolen fabric mills, or all full-fashioned hosiery mills. There are no perfect examples in that category either.

Of course, there are many important groups in each of the two classes just described which go a long way in integration, and these examples now are multiplying. In vertical integration there are such companies as Goodall-Sanford Mills, Riegel Textile Corp., Textron, Inc., etc. In horizontal integration there are such companies as American Woolen Co., Textiles, Inc., Proximity Mfg. Co., the new J. P. Stevens & Co. merger, etc.

Actually most companies already have within themselves the elements of both types of integration. A plant which opens cotton, cards, draws, spins, and weaves is vertically integrated, no matter what its size. As a contrast, in England spinning, doubling, and weaving are normally performed under three separate managements. Advantages of integration of spinning through weaving are obvious, since the end-point in the woven fabric is always in sight from the opening of the fiber bale. One of the recent British reports criticizes its own industry for turning out yarns in competition which are often too good or not good enough for the fabric into which they are to go. In much of the American industry this fault need never occur.

Horizontal integration may be said to

List of Mill Mergers and Acquisitions from January, 1944, to June, 1946, incl.

• *These listings come in largest part from the "News About Mills" department of* TEXTILE WORLD. *We have endeavored to omit transfers which do not fit into the "integration" movement in the industry. We have omitted such items as sale of stripped mill buildings for other lines of manufacture, the purchase by occupants of leased premises, Canadian and other operations outside this country. Available information has not always been complete. In some cases, the transaction covers the transfer of the whole mill; in other cases only control passes or perhaps just a juggling of ownership with change in name. In instances different names may indicate substantially the same interests; as for example, Jacob Ziskind and Crescent Corp. The listings are alphabetical according to original name of mill sold, separated into groups according to specified branches of the industry.*

COTTON MILLS

Mill or Company	Acquired by
Alabama Mills, Jasper Unit, Jasper, Ala.	Crescent Corp., Fall River, Mass.
Alabama Mills units at Russellville and Haleyville, Ala.	Crest-Tex Mills, New York (Morris David of U. S. Kimono Co., and Courtland Palmer)
Alba Twine Mills, Inc., Stanley, N. C.	M. M. Rudisill, Lincolnton, N. C.
Alpine Cotton Mills, Morganton, N. C.	Geo. W. Stowe, Belmont, N. C.; $450,000; 10,440 spdls.
American Multiple Fabric Co., Providence, R. I.	Furniture Sales, Inc., Providence, $23,850
Androscoggin Mills, Bates Mfg. Co., and Hill Mfg. Co., Lewiston, Me.; Edwards Mfg. Co., Augusta, Me.; York Mfg. Co., Saco, Me.	Bates Co., Bates Mfg. Co. Augusta, Me. (merger of five mills)
Annabessacook Mills, North Monmouth, Me.	Nashua Mfg. Co., Nashua, N. H.
Anchor Duck Mills, Rome, Ga.	Crescent Corp., Fall River, Mass.
Balfour Mills, Balfour, N. C.	International Cellucotton Products Co., Chicago, makers of Kotex; $3,000,000 or $125 per spindle
Balston Yarn Mills, Lincolnton, N. C.	Nathan Scheinmann, New York
Barbara Mills, Inc., Salisbury, N. C.	Pres. and treas., W. F. McCanless, Klumac Cotton Mills, Victory Mills, Inc.
Bartex Spinning Co., Clayton, N. C.	Norwich Knitting Co., Norwich, N. Y.
Belmont Cotton Mills, Shelby, N. C.	C. E. Neisler, Jr., and associates, Kings Mountain
Birmingham Cotton Mills, Birmingham, Ala.	Chrysis Corp. (Chinese interests) $400,000; still under lease to Golding Bros., New York (Newera Mills)

COTTON MILLS *(continued)*

Mill or Company	Acquired by
Birmingham Cotton Mills, Birmingham, Ala.	Newera Mills, Inc., (controlled by Railway Supply & Mfg. Co., Cincinnati, O.)
Birmingham Cotton Mills, Birmingham, Ala.	Palmer Bros. Co., New London, Conn.
Richard Borden Mfg. Co., Fall River, Mass.	Elton Fabrics, Providence, R. I. $60 per share, later to Abraham Radin, New York, for $750,000
Brazos Valley Cotton Mill, West, Texas	H. Kahn and associates, New York
Brookside Mills, Knoxville, Tenn.	Jacob Ziskind, Fall River, Mass., $1,500,000. Resold to Tabin, Picker & Co., Chicago, dress mfrs.; $3,000,000; 52,000 spdls., 1,000 looms
Buffalo Mills, Shelby, N. C.	Clay V. Richardson (Clayson Ktg. Co.), Star, N. C.
Calhoun Mills, Calhoun Falls, S. C.	Ely & Walker Dry Goods Co., St. Louis, Mo.; 48,000 spdls.
Carolina Textile Corp. No. 3, Hamar, S. C.	Max Schiffman and associates, New York; $417,384; 13,464 spdls.
Chadwick-Hoskins Co., Charlotte, N. C. (subsidiary of Gossett). Mills at: Mill No. 1, Charlotte, N. C. Mill No. 2, Charlotte, N. C. Mill No. 3, Charlotte, N. C. Mill No. 4, Charlotte, N. C. Mill No 5, Pineville, N. C.	Textron Southern, Inc., a subsidiary of Textron, Inc., New York and Providence
Clover Spinning Mills, Inc., Clover, S. C.	David Getz, Allentown, Pa.
Cone interests involving 14 mills at and near Greensboro, N. C.	Consolidated into Proximity Mfg. Co.
Conestee Mill, Conestee, S. C.	Blackinton Woolen Mills, North Adams, Mass.
Continental Mills, Lewiston, Me.	A. N. Winslow, Jr., Boston, trustee for M.I.T.
D. E. Converse Co., Glendale, S. C.	J. L. Stifel & Sons, Wheeling, W. Va.; $2,500,000; 33,804 spdls., 964 looms
Cornelius Cotton Mills, Cornelius, N. C. (renamed Cornelius Mills, Inc.)	Pres. and treas, Alexander F. Ix, New York
Cowpens Mfg. Co., Cowpens, S. C.	Leading Cotton Mills, Inc.
Crown Mfg. Co., Pawtucket, R. I.	Jacob Ziskind, Fall River, Mass.; $235 per share; resold to J. J. Axelrod
Culpepper Textile Mills, Inc., Culpepper, Va.	Lewis Carpenter
Dallas Cotton Mills, Dallas, Tex.	A. Hovarth and associates, New York
Dixon Mills, Inc., Gastonia, N. C.	American Yarn & Processing Co., Mt. Holly, N. C.
Double Shoals Mills Co., Double Shoals, N. C.	Cleveland Mill & Power Co., Lawndale, N. C.

Textile Mills and Fiber Manufacturers Merged in War Period*

1940	10
1941	3
1942	4
1943	4
1944	7
1945	28

* From U. S. Dept. of Commerce release dated June 25, 1946.

exist in any plant which has more than one of the machines of which the fewest are needed. For example, if one card, with associated machines, feeds 10 looms, then a plant with 20 cards and 200 looms is obviously 20 times the theoretical minimum size; and to a degree it is integrated just as much as though it had merged with other spinners and weavers. Some of the larger companies have all their machines in a related group of buildings on one site, and they are just as much "integrated" as others which may not have so much total machinery but may have it scattered in 8 or 10 separate plants.

Governmental charges of monopoly place a definite limit to the growth of horizontal integrations. Nothing but administrative skill and financing at present limits the growth of integration vertically.

IT'S CYCLICAL. Lest anyone think that mergers are novel and peculiar to the present time in textiles, it might be instructive to look back a few years. Perhaps first evidence of what could be done through them came around 1900 when the American Woolen Co. was formed, the first and probably greatest textile merger, controlling as it did in 1925 with its nearly 60 mills about one-fifth of the product of its branch of the industry. The first real wave of mergers came in 1919-1921, after World War I. This wave was temporarily arrested by the first post-war depression beginning in 1921. Absorption and purchases of businesses again took an upturn in 1925 and reached all-time peaks in the headlong prosperity of 1928 and 1929. Another let-up followed in the great depression of the early '30s. Just before the end of World War II, perhaps dating from the launching of Textron, Inc., in 1943, mergers began again to be important in textiles. The big jump came in July, 1945, when the war's end came definitely in sight.

COTTON MILLS *(continued)*

Mill or Company	Acquired by
Dudley Shoals Cotton Mill, Granite Falls, N. C.	Alex Shuford, of Hickory, and J. W. Abernethy, of Newton
Ensign Cotton Mills, Forsyth, Ga.	Susquehanna Mills, Sunbury, Pa.
Entwistle Mfg. Co., Plants No. 1 and 3, Rockingham, Ala.	M. Lowenstein & Sons, New York; 62,396 spdls.; 1,575 looms
Entwistle Cotton Mills No. 2, Rockingham, N. C.	Beaunit Mills, New York
Erlanger Cotton Mills No. 2, Lexington, N. C.	Clarence A. Ross, Gastonia, N. C.
Falls of the Neuse Mills, Raleigh, N. C. (Diana Mills)	Jack C. Turk Co., New York
Firestone Cotton Mills, Fort Worth, Tex.	Akos Horvath, of Dallas Cotton Mills, Dallas, Tex.
Fisher Mfg. Co., Fisherville, Mass.	Ziskind interests, Fall River, Mass. Later had following officers: Pres., S. R. Stone; Treas., M. M. Stone, Boston, Mass.
Fitzgerald Cotton Mills, Fitzgerald, Ga.	Courtland Palmer and associates, New York
Flint Mfg. Co., Gastonia, N. C., 2 plants	Burlington Mills Corp., Greensboro
Gaffney Mfg. Co., Gaffney, N. C.	Half its weaving equipment to Crescent Corp., Fall River; rest to Leading Cotton Mills, Shelby, N. C.
Georgia Webbing & Tape Co., Columbus, Ga.	W. B. Thompson and associates
Gosnold Mills Corp., New Bedford, Mass.	Powdrell & Alexander, Danielson, Conn.; $1,750,000
Gossett Mills, Anderson, S. C.; Riverside, Anderson, S. C.; Ladlassie, Anderson, S. C.; Toxaway, Anderson S. C. Pendleton, Pendleton, S. C.; Finishing plant, Anderson, S. C. (also Chadwick-Hoskins, a subsidiary, which see)	Textron Southern, Inc. (formed by Textron, Inc., of Providence, R. I.)
Gray Mill of Textiles, Inc., Gastonia, N. C.	Bloom Mills (Joseph Bloom of Gloversville, N. Y.); $350,000
Hall-Kale Mfg. Co., Troutman, N. C.	Hampton Mills, Inc. (American Thread Co.)
Hampton Spinning Co., East Hampton, Mass., and 3 mills in South	American Thread Co., New York
Hannah Pickett Cotton Mill No. 1, Rockingham, N. C.	Safie Bros., New York; $2,880,000; 77,000 spdls., 2,200 looms; (also op. Prattville (Ala.) Cotton Mills
Hannah Pickett Mills No. 2, Rockingham, N. C.	Karl Robbins (Colonial Mills Corp.), New York
Hartwell Mfg. Co., Hartwell, Ga.	R. J. Jenness, New Orleans, La.
Hickory Fabrics, Inc., Hickory, N. C.	C. H. Keith and others; $200,000
Hope Mill of Lonsdale Co., Hope, R. I.	F. Jacobson & Sons, New York (shirt mfrs.), 33,000 spdls., 800 looms
Howard-Arthur Mills, Fall River, Mass.	Jacob Ziskind, resold to Millville Mfg. Co., Millville, N. J.
Indiana Cotton Mills, Cannelton, Ind.	Bemis Bros. Bag Co., St. Louis
Irene Mill Mfg. Co., Gaffney, S. C.	Vogue Mill, Gaffney, S. C.
Jackson Mills No. 3, High Shoals, N. C.	Carolinian Mills, Gastonia, N. C.

COTTON MILLS *(continued)*

Mill or Company	Acquired by
Lane Cotton Mills Co., New Orleans, La.	Interests associated with Pomona Mfg. Co., Greensboro, N. C.
Liledoun Mill, Taylorsville, N. C.	Brookwood Fabrics, Inc., Gastonia, N. C. (Knitting to be added)
Lonsdale Co., Hope Mill, Hope, R. I.	F. Jacobson & Sons, New York
Lonsdale Co., Providence, R. I.	Rhode Island Foundation Trust
Lonsdale Co. plant at Seneca, S. C.	Utica & Mohawk Cotton Mills, Utica, N. Y.
Magnolia Cotton Mill, Magnolia, Ark.	T. A. Turner and associates, Jackson, Miss., and Lynchburg, Va.
Mallison Braided Cord Co., Athens, Ga.	Wehadkee Yarn Mills, West Point, Ga.
Mansfield Cotton Mills, Lumberton, N. C.	John W. Hanna, New York
Martinsville Cotton Mills, Martinsville, Va.	McMahon & Cremins, New York; $374,000; 22,000 spdles., 500 looms
D. H. Mauney & Sons Mfg. Co., Maiden, N. C.	Maiden Spinning Mills
Maxton Mills, Maxton, N. C.	Troy Whitehead, of Charlotte, N. C.
Merrimack Mfg. Co., Huntsville, Ala.	M. Lowenstein & Sons, Inc., New York (Huntsville Mfg. Co.); $1,100,000; 110,000 spdles, 2,500 looms
Merrimack Mfg. Co., Lowell, Mass.	Jacob Ziskind, Fall River, Mass.
Monticello Cotton Mills Monticello Ark.	Charm Tred Mills, Chicago Cotton Rug Mfrs.
Mississippi Cottons, Inc., Meridian, Miss.	China United Industrial Corp., Shanghai, China
Monticello Cotton Mills, Monticello, Ark.	F. M. Swirles (T. A. Shaw & Co., Chicago), and T. Spencer
Morowebb Cotton Mills, Dallas, N. C.	Gastonia Combed Yarn Corp., Gastonia, N. C.
Nashua Mfg. Co., Nashua, N. H.	Textron, Inc., New York; 75,000 shares at $100 each
Nashawena Mills, New Bedford, Mass.	Wm. Whitman Co. (List Brothers, Boston and New York)
National Dixie Mills, Newnan, Ga.	Crescent Corp. (Jacob Ziskind) Fall River, machinery only
Newberry Cotton Mills, Newberry, S. C.	M. M. Clairmont, New York
Newera Mills (formerly Southern Cotton Mills), Birmingham, Ala.	Palmer Bros. Co., New London, Conn.
Nims Mill, Mount Holly, N. C.	American Yarn & Processing Co. (American Yarns, Inc.)
Nonquitt Mills, New Bedford, Mass.	Wm. Whitman Co. (List Brothers, Boston and New York)
Norwood Mfg. Co., Norwood, N. C.	Collins & Aikman Corp., New York
Nyanza Mill, Woonsocket, R. I.	Robert Herss, formerly of Latvia
Orr Cotton Mills, Anderson, S. C.	M. Lowenstein & Sons, New York; $676.38 per share, or $75 per spindle
Palmer Bros. Co. plant at Fitchville, Conn.	Taken over by Morris David and Lester Martin
Patterson Mill, Lenoir, N. C.	Yadkin Mills Co. (Stowe interests of Belmont)
Pearl Mill, Boiling Springs, N. C.	J. & D. Sobel, New York (Barbara Mills)

COTTON MILLS *(continued)*

Mill or Company	Acquired by
Peck Mfg. Co., Warrenton, N. C.	T. Ewing Montgomery, rep. Pennsylvania knitting mfrs.; $450,000
Peerless Spinning Corp., Lowell, N. C.	Bernard Weil, New York; $600,000
Pendleton Mfg. Co., La France, S. C.	Pres., P. Gerli; treas., D. J. R. Suffredini
Phenix Mills, Nos. 1 and 2, Kings Mountain, N. C.	Burlington Mills Corp., Burlington, N. C.
Poulan Cotton Mills, Poulan, Ga.	W. F. McCanless, Salisbury, N. C. (Circle M Cotton Mills)
Prattville Cotton Mills, Prattville, Ala.	Gurney Mfg. Co., Gastonia, N. C.
Priscilla Mill of Textiles, Inc., Gastonia, N. C.	Traded to Aberfoyle Mfg. Co., for that company's three Hanover plants in South Gastonia
Profile Cotton Mill, Jacksonville, Ala.	75,000 spdls. and related machinery to Syrian interests
Quissett Mills, New Bedford, Mass.	Jacob Ziskind, Fall River (liquidated)
Red River Cotton Mills, Red River, S. C.	Dan S. LaFar, Rock Hill, S. C. (to operate as No. 2 unit of Harden Mfg. Co., Gastonia)
Rex-Hanover Mills, Rex Plant, Ranlo, N. C.; and Hanover Plant, Gastonia, N. C.	Pres., Elliott J. Neal; treas., A. S. Robinson, Belmont, N. C.
Rhodes-Rhyne Mfg. Co. and Indian Creek Mill, Lincolnton, N. C.	H. S. McIntyre, of Charlotte, B. Weil and S. Rygler, of New York (Aristex Corp.)
Rhodiss Cotton Mills, Rhodiss, N. C.	Pacific Mills, Boston (31,000 spdls., 818 looms)
Roswell Mills, Roswell, Ga.	A. L. Fuller and G. E. Goodroe; 8,600 spdls.
Rowan Cotton Mills No. 2, Salisbury, N. C.	Macanal Mills Inc. (Messrs. Schiffman and Madans)
Royal Cotton Mill Co., Wake Forest, N. C.	Smith and Jordan (Sellers Mfg. Co., Saxapahaw, N. C.)
Frederick Rumpf's Sons, So. Langhorne, Pa.	Northwood Textile Mills, Philadelphia
Samoset Cotton Mills Corp., Talladega, Ala.	Wehadkee Yarn Mills, West Point, Ga.; $380,000; West Point Mfg. Co.
Santee Mills, Bamberg, S. C.	E. M. Pinto and L. M. Olivar, Moroccan capitalists
Santee Cotton Mill, Orangeburg, S. C.	South Carolina Cotton Mills (headed by N. Handal)
Saratoga-Victory Mills of Ala., Albertville, Ala.	M. Lowenstein & Sons, New York (who at this time operated only the Rock Hill Printing & Finishing Co.); 32,000 spdls., 1,076 looms
Saxon Mills, Spartanburg and Chesnee, S. C.	Reeves Bros., New York
Sherman Mfg. Co., Sherman, Texas	Grayson Textiles Inc. (Jacob Ziskind)
Southern Webbing Mills, Greensboro, N. C.	Wm. H. Barnhardt, Charlotte
Steele Cotton Mills, Lenoir, N. C.	B. B. Hayes and associates (Hayes Cotton Mill Co.); $798,000
Steele's Mills, Rockingham, N. C.	R. S. Dickson & Co., Charlotte (Leased by Burlington Mills with option to buy)
Stevens Textile Mfg. Co., Fall River, Mass.	Cabot Mfg. Co.
Stevens Textile Mfg. Co., Yarn Division, Fall River, Mass. (renamed Stevens Spinning Co.)	Uxbridge Worsted Co., Uxbridge, Mass.
Stevens Merger, including Piedmont Mfg. Co., Piedmont, S. C.; Republic Cotton Mills, Great Falls, S. C.; Wallace Mfg. Co., Jonesville, S. C.; Victor-Monaghan Co., Greenville, S. C.; Aragon Baldwin Mills, Whitmire, S. C.; Duncan Mills, Greenville, S. C.; Slater Mfg. Co., Slater, S. C.; and Cleveland Cloth Mills, Shelby, S. C.	Merged into J. P. Stevens & Co., New York, by a proposed program of recapitalization at $50,000,000 and exchange of stock
Texas Gauze Mills, New Braunfels, Tex.	Hollywood Textile Co.
Textile Yarn Products Co., Lincolnton, N. C.	Airline Products Co., Gastonia, bought equipment
Tolar, Hart & Holt Mills, Fayetteville, N. C.	Pres., D. R. LaFar, Jr.; treas., Harry T. Allen, Gastonia, N. C.
Trion Co., Trion, Ga.; Ware Shoals Mfg. Co., Ware Shoals, S. C.; Riegel Textile Corp., New York	Consolidated as Riegel Textile Corp.
Tuscarora Cotton Mills, Mount Pleasant, N. C.	Control goes to M. B. Foil, of Concord, N. C.
Union-Buffalo Mills Co., Union, Buffalo, and Fairmont, S. C.	United Merchants & Mfrs., Inc., New York
Utica & Mohawk Mills, Utica, N. Y.	Proposed merger with Wamsutta Mills, New Bedford, Mass.
Victor-Monaghan Co. plant at Walhalla, S. C.	Chicopee Mfg. Co., Manchester, N. H.
Virginia Braid Co., Charlottesville, Va.	Coventry Co., Coventry, R. I. (now Virginia Textiles, Inc.)
Virginia Mfg. Co., Fork Shoals, S. C.	Pres., James S. Briggs, Atlanta; v. pres. and gen. mgr., J. M. Battson
Waco Twine Mill, Waco, Texas	H. Kahn and associates, New York
Wamsutta Mills, New Bedford, Mass., and Utica & Mohawk Mills, Utica, N. Y.	Contemplate merger
Warren Combed Yarn Corp., Stanley, N. C.	M. H. Rhyne and associates, McAdenville, N. C. (Rhyne Mfg. Co.); $100,000
Warwick Lace Works, West Warwick, R. I.	Bancroft Lace Co.
Wehadkee Yarn Mills, Rock Mills, Ala.	West Point Mfg. Co., West Point, Ga.
Wellington Sears Co., Inc., Boston and New York	West Point Mfg. Co., West Point, Ga.
West Boylston Mfg. Co., Montgomery, Ala.	United Elastic Corp., Easthampton, Mass.
West End Thread Corp., Millbury, Mass.	Jacob Ziskind, resold to Linen Thread Co., New York
Whitener Spinning Mills, Lincolnton, N. C.	M. D. Havey, Spindale (name changed to Lincoln Yarn Co.)
William Whitman Co., Inc., Boston, Mass., and New York	List Brothers, Fall River, Mass., and Cleveland, O.
Whitney Mfg. Co., Whitney, S. C.	Crescent Corp., Fall River
Whittenton Mfg. Co., Taunton, Mass.	Loomcrest Co. 514 Broadway, N. Y. 17,000 spdls., 276 looms
Winder Cotton Mills, Winder, Ga.	Beacon Mfg. Co., Swannanoa, N. C.; later named Sachem Mills
Woodstock Spinning Corp., Anniston, Ala.	Amber Textile Mills
Worth Mills, Fort Worth, Tex. (Renamed Firestone Cotton Mills)	Firestone Tire & Rubber Co., Akron, O.

RAYON MILLS

Mill or Company	Acquired by
American Silk Mills, Lancaster, Pa.	Widder Bros., Emaus, Pa., and New York
Ann & Hope Mill, Lonsdale, R. I.	Martin Chase and A. Blackman; $435,000
Cleveland Cloth Mills, Shelby, N. C.	J. P. Stevens & Co., Inc., New York (acquired holdings of O. Max Gardner)
Cleveland Silk Mills, Cleveland, Tenn.	Harold A. Chappell, of West Orange, N. J.
Cornelius Cotton Mills, Cornelius, N. C.	Frank Ix & Sons, New York
Culpepper Textile Mills, Inc., Culpepper, Va.	Lewis Carpenter
Ensign Mill, Forsythe, Ga.	Susquehanna Mills, New York (Susco Mill Corp.)
John Hand & Son plant at Paterson, N. J.	Narhan N. Platt; $60,000
Irene Mfg. Co., Gaffney, S. C.	Vogue Mills
Klots Corp., Scranton, Pa.	Stern & Stern, 1359 Broadway, New York
LaFrance Industries, Frankford, Philadelphia, Pa.	Northwood Textile Mills (J. N. Burke)
Lorraine Mfg. Co., Pawtucket, R. I. (Cotton and rayon division)	Jacob Ziskind, Fall River, Mass.; rayon division resold to Nathan Sheinman, New York converter (Reycrest Mills)
Lonsdale Co. plants at Lonsdale and Cumberland, R. I.	Textron, Inc.; $3,128,000
Manville-Jenckes Corp., Manville, R. I.	Royal Little (Textron Inc.); 83,000 spdls., 3,423 looms; about $5,500,000
Minnewawa Mfg. Co., Knoxville, Tenn.	Walter Frenz, Marlboro, N. H.
Newmarket Mfg. Co., Lowell, Mass.	Messrs. Gallant, Griffith and Weston
Pembroke Mill, Pembroke, N. H.	Textron, Inc.
Phoenix Mills, Kings Mountain, N. C.	Burlington Mills Corp., Greensboro, N. C.
Prudential Mill of La France Industries	R. A. Postlewaite (Rock Hill Spg. Co., Rock Hill, S. C.)
Queen Anne Mills, Ellenboro, N. C.	Neisler Mills, Kings Mountain, N. C.
Silk Fiber Mills, Keene, N. H.	Charleston Woolen Co., Charleston, N. H. (S. Frankel, New York)
Skenandoa Rayon Corp., Utica, N. Y.	St. Regis Paper Co., New York, resold to Beaunit Mills, New York
South Boston Weaving Corp., South Boston, Va.	Burlington Mills Corp., Greensboro, N. C.
Carl Stohn, Inc., Taunton, Mass.	Gilbert Verney, Boston, Mass.
Summit Yarn Mill, Lincolnton, N. C.	Duplan Corp., New York
Sunspun Mfg. Co., Asheboro, N. C.	Burlington Mills Corp., Greensboro
Tubize Rayon Corp., New York and elsewhere	Celanese Corp. of America, New York and elsewhere
John C. Welwood Corp. with 3 mills at various locations	R. G. Buser Silk Co., New York
Windham Silk Co., Willimantic, Conn.	Coventry Co. (Virginia Textiles, Inc.)
Woonsocket Rayon Corp., Woonsocket, R. I.	Textron, Inc., resold to Synthetic Yarns, Inc.

Who will say that this movement has passed its peak?

"Since VJ-Day there has been a sharp increase in corporate mergers, a trend closely resembling the corporate concentration following World War I," said Henry Wallace, Secretary of Commerce, on June 25. His department's records for all industry show that fourth quarter of 1945, mergers and acquisitions reached the highest level since 1931. Government figures show that this trend toward integration is not peculiar to textiles, but includes also, to a greater or less degree, alcoholic beverage companies, drug and pharmaceutical companies, dairy concerns, paper mills, and metal producing and fabricating plants. Figures are available by quarters since 1919 on acquisitions and mergers. These show a high of 209 in the first quarter of 1920; a low of 44 in the third quarter of 1923; a high of 395 in the second quarter of 1929; a low of 7 in the first quarter of 1932; a pre-war high of 39 in first quarter of 1936; a wartime low of 13 in first quarter of 1941 and a postwar high of 121 in fourth quarter of 1945. Statistically, industry as a whole has still a long way to go to achieve the merger rate of 1926 to 1929 or even the rate of 1920.

Integrations have thus shown themselves to be cyclical, multiplying with prosperity and declining with depression. Usually, the last consolidations in the flush cycle are the most vulnerable, since they are effected at prosperity's peak prices and are not capitalized on a scale likely to weather depression. Back in 1917 cotton cards are said to have sold at about $500. Lately, they have sold to $2300; and currently, it is said, $3000 is nearer the price. Mill buildings at the close of World War I could be erected at about $1.25 per sq. ft. of floor space, whereas today the figure is nearer $5.00.

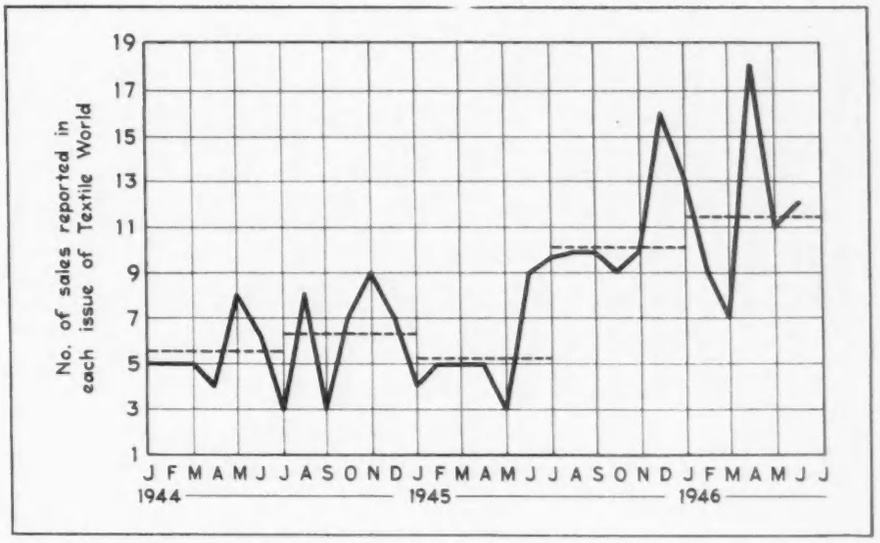


Chart based on number of mill news items in each issue of TEXTILE WORLD relating to sale or transfer of mill properties. Dotted lines are half yearly averages.

The per-spindle price of mill properties today has probably touched an all-time high, due of course not only to the demand for the properties themselves but to overflow demand for machinery, resulting from the three-year sold-up condition of machine makers. A check covering a few of the recent mill sales shows little uniformity; the examples range from $16 to $76 and over. Of course, much depends on whether the plant is modern or outmoded, whether it carries weaving along with its spinning, whether it includes acreage and a village or just a small site. Current analysis indicates that $45 per spindle is considered a fair basis, with some evidence that no more moderately good properties are to be had even for that figure. It is obvious that for excellent properties considerably more must now be paid. For example, Balfour Mills, reported to have brought about $3,000,000, touches $125 per spindle.

PECULIAR TO TODAY. A set of circumstances peculiar to the 1940s has given momentum to vertical integration on a

WOOL MILLS

Mill or Company	Acquired by
Atlanta Woolen Mills, Atlanta, Ga.	D. P. Manget, Newnan, Ga.
Brampton Woolen Mill plant at Sunapee, N. H.	Connecticut River Mills, New York
Carleigh Mills Co., Raleigh, N. C.	Premier Worsted Co. (Herbert Lawton, New York)
Collins & Aikman plant at Allendale, R. I.	Allendale Co. (headed by C. B. Rockwell
Dorence Worsted Co., Philadelphia	DeKuyper Woolen Mills, Philadelphia
Dresden Woolen Mills, Zanesville, Ohio	Nichols Marcoglou, New York
Forest-Pondicherry Mills Bridgeton, Me.	I. Zimber and S. Goldlust, N. Y. (Sebago Mills)
Gardner Yarn Co., Gardner, Mass.	Corridale Mills, Moosup, Conn.
Gilsum Woolen Mills, Gilsum, N. H.	Jacques Cipoth, New York
Glenside Mills, Skaneateles Falls, N. Y.	Axelrod interests of Woonsocket; resold to Glenbrook Woolen Mills, Muncy, Pa.
Goodall Decorative Fabrics Div., Bridgeport, Conn., and L. C. Chase & Co., New York	Consolidated as Goodall Fabrics, Inc.
Goodall Worsted Co. and Sanford Mills, Sanford, Me.	Union Securities Corp., W. C. Langley & Co., and associates, New York and Boston; Goodall-Sanford, Inc., formed
Gordon Woolen Mill, Newport, N. H.	Gordon A. Brown, West Swanzey N. H.
Greenwich Mills, East Greenwich, R. I.	Verney Corp., Boston, Mass.
Hilliard Mills, Buckland, Conn.	Max Furman, Norwich, Conn.
Keene Woolen Mills, Gilsum, N. H.	Max Furman, Norwich, R. I. (Gilsum Woolen Mills)
Lippitt Woolen Co. plant at Woonsocket, R. I.	Airedale Worsted Mills, Woonsocket (Dale Worsted Mills)
Lone Star Woolen Mills, San Marcos, Tex.	M. Brown and M. Nussbaum, Paterson, N. J.
Monadnock Carpet Co., Milford, N. H.	E. I. Goldenburg, New York (Vernon Rug Mills)
New City Mill, Staffordville, Conn.	Drycar Felt Co., Belleville, N. J.
Thos. Oakes & Co., Bloomfield, N. J.	Jacob Ziskind, Fall River, resold to Horvath interests
Paris Woolen Mills, Stayton, Ore.	J. B. Powell, Portland, Ore.
Roniteau Mills, Ashaway, R. I.	Miles L. Finch, New York (Ashaway Woolen Mills)
Schuster Woolen Co., Millbury Woolen Co., and H. T. Hayward Co., East Douglas, Mass., and vicinity	Merged as Hayward-Schuster Woolen Mills
Sheble & Wood Worsted Mills, Salamanca, N. Y.	E. F. Quittner, Philadelphia
Wottoquottoc Worsted Co., Hudson, Mass.	A. J. & Nathan Rosenstein, West Hartford, Conn. (Bradford Spinning Co.)
Wuskanut Mills, Farnumsville, Mass.	Herbert Lawton & Co., New York

More branded textiles on the market will be one of the results of the mill-distributor integrations now going on.

scale which is drawing comment not only in textile conversations and association meetings but in general-circulation business papers. A prime factor has been the price-ceiling scheme set up by OPA, with close figuring on basic products but better margins on more complicated finishes and for added steps of manufacture. The gray goods mill, which might not break even in selling gray goods as heretofore, could see a fair profit in the sale of dyed or printed fabrics; hence the urge to acquire or create a converting department.

Another prime factor in vertical integration has been government allocation to unusual uses and resulting scarcities in normal channels. This condition has led knitters, who found yarns unobtainable, to go out and buy cotton yarn mills or a small rayon company; it has influenced converters to buy cotton and rayon gray mills to assure a supply of desirable woven goods; it has led some garment houses to buy fabric mills.

Once these movements start, competition does the rest and integrations blossom out all over the map.

Another condition which has stimulated the mad rush for mill properties is the sold-up position of the makers of the principal textile machines who cannot deliver on new orders for several years. A plant desiring expansion now can get it quickly only by going out and buying another plant. Then, too, the dealers in used machinery found that it was valuable property and readily saleable, and their demand for complete plants has been added to the already active situation; in fact many of these dealers actually led the procession and were buyers early in the movement. Foreign demand has piled in on top of

(*Continued on page 224*)

KNITTING MILLS

Mill or Company	Acquired by
Adrian Mill of Conover Ktg. Co., Newton, N. C.	R. L. Bothwell, Hickory, N. C.
Alpine Knitting Co., East Pittston, Pa.	Pittston Apparel Co.
Appalachian Mills Co., Knoxville, Tenn.	W. H. Faulkner, Knoxville, Tenn.; J. T. Conner and associates, New York
Artcraft Silk Hosiery Mills, Philadelphia	Interstate Hosiery Mills, New York
Bell Hosiery Co., Suffolk, Va.	Morristown Knitting Mills, Morristown, Tenn.
Best Mfg. Co., Gainesville, Ga.	Chadbourn Hosiery Mills, Charlott (Gaybourn Mills)
Black Hosiery Mills, Midland, N. C.	Chadbourn Hosiery Mills, Burlington
Blenheim Silk Hosiery Co., Blackwood, N. J.	Bond Hosiery Inc.
Chalmers Knitting Co., Amsterdam, N. Y.	Louis Cowan, New York (70% interest)
Comet Plant of Leininger Ktg. Co., Mohnton, Pa.	L. A. Lutz (Wyomissing Hosiery Mills)
Crescent Knitting Co., Statesville, N. C.	Crescent Knitting Mills (Duke Hosiery Corp., Hickory); Roth and Kramer
Dexdale plants at Jasper, Ala., Crossville, Tenn., and Eleanor, Va.	Hess-Taylor-Kreiss Co. $1,200,000, 1,000 ff. machines. Plant at Eleanor later taken over by West Virginia Hosiery Corp., organized by Philadelphia interests
Dixie Hosiery Mills, Newport, Tenn.	A. P. Slaner
Doyle Hosiery Corp., Doylestown, Pa.	M. H. Hosiery Co., newly formed
Elliott Mfg. Co., Manchester, N. H.	Wilson Bros., Chicago
Full-Knit Hosiery Co., Burlington, N. C.	Chadbourn Hosiery Mills, Charlotte
General Silk Hosiery Co., Fort Wayne, Ind.	Gotham Hosiery Co., New York
Golden Belt Mfg. Co., Durham, N. C.	(Hosiery part of its business) Hillcrest Hosiery Mills; $500,000
Gray Line Hosiery Co., Chambersburg, Pa.	Stanton D. Sanson
Harriman Hosiery Mills, Harriman, Tenn.	Part interest sold to Burlington Mills Corp.
Holyoke Silk Hosiery Co., Holyoke, Mass.	Noma Electric Corp., New York
Hudson Silk Hosiery Co., Hudson Silk Knitting Mills, and Oakhurst Ktg. Mills, all of Charlotte, N. C.	Consolidated Hudson Hosiery Co.
Larkwood Hosiery Mills, Charlotte, N. C.	J. C. Bolles (Chadbourn Hosiery Mills) and R. S. Dickson & Co.
Liberty Hosiery Mill, Lyerly, Ga.	R. L. Chance, and moved to Fort Payne, Ala., as Chance Hosiery Mills
Lone Star Hosiery Mills, San Antonio, Texas	McGaugh Hosiery Mills, Dallas, Tex.
Lyon Knitting Mills, Herndon, Pa.	A. W. Schuford and Vernon Cline, Hickory, N. C.
Minneapolis Knitting Works, Minneapolis, Minn.	C. C. Wells and associates, Chicago
Nolde & Horst plant at McMinnville, Tenn.	John H. Voght, Reading (Voght Knitting Mills)
Reading Full-Fashioned Hosiery Mills, Reading, Pa.	J. B. Kingsley and A. Shapiro, Scranton
Rodgers Hosiery Co., Athens, Ga.	Wayne Knitting Mills, Fort Wayne, Ind.; $1,425,000
Rohrer Knitting Mill, Orwigsburg, Pa.	Carl Gutmann & Co., New York
Rollins Hosiery Mills, Des Moines, Iowa	Munsingwear, Inc., Minneapolis, Minn.
Ruth Hosiery Mills, Durham, N. C.	Sarah Hosiery Mills, Mount Airy, N. C.
Scott Hosiery Mills, Graham, N. C.	May, McEwan, Kaiser Co., Burlington (Name changed to Sidney Ktg. Mills)
SeLing Hosiery Mills, Nashville, Tenn.	S. and M. Burd (Lycoming Hosiery Co.); $750,000 (Reported to be dismantled in Nov., 1945)
Siler City Hosiery Co., Siler City, N. C.	Cardinal Commission Co., Burlington N. C. (related later to Chadbourn Hosiery Mills)
Star Mill (of L. E. Herrower & Son), Hagaman, N. Y.	Hagaman Needlecraft Corp.
Thompson Hosiery Mill, Burlington, N. C.	Webb Hosiery Co.
United Silk Mills Co., Northumberland, Pa.	United Hosiery Mills
United Underwear Mills, Boyertown, Pa.	Messrs. Moss, Ohayer, and St. Aubin, Jr., New York (Vesta Underwear Co., Pawtucket, R. I.)
Valley Knitting Mill, Pottsville, Pa.	S. Handel & Sons, New York
Walnott Knitting Mills, Utica, N. Y.	Ladifabrics Inc., Pawtucket, R. I. (Max Schiffman and Alex Madans)
Wright's Underwear Co., Troy, N. Y.	Wilson Bros., South Bend, Ind., and Chicago

DYEING AND FINISHING PLANTS

Mill or Company	Acquired by
Apponaug Co., Apponaug, R. I.	Mills, Inc.
Carolina Converting Co., Blacksburg, S. C.	Morris Matinow
Crown Piece Dye Works, Woonsocket, R. I.	Airedale Worsted Mills, Woonsocket
Dempsey Bleachery & Dye Works, Providence, R. I.	David Dwares (Slater Dye Works, Pawtucket)
Edgewater Dyeing & Finishing Co., Philadelphia, Pa.	Phillipsburg Textile Print Works, Phillipsburg, N. J.; $500,000
Hampton Co., Easthampton, Mass.	Aspinook Corp., Jewett City, Conn.; $7,000,000 (Hampton Print Works)
Narragansett Finishing Co., Westerly, R. I.	Harodite Finishing Co., No. Dighton, Mass. (machinery only)
H. Schindler & Co., Canton, Mass.	International Braid Co. (Rain-Beau Products Co.)
Woodlawn Finishing Co., Pawtucket, R. I.	Rayon Processing Co., Central Falls, R. I.

Fig. 1. Adjusting spinning-frame speed to equal her ability enables a good spinner to produce more and to make more money.

INCENTIVE PLAN for Spinners Increases Production and Pay

By FRANCOIS E. CLEYN
Spinners Limited

HIGHLIGHTS: *Variable-speed drive on each frame, adjustable by operator, permits spinners to profit by ability — Increase in production estimated at 10 to 15% — Permits taking advantage of day-to-day conditions and running quality of stock.*

THERE ARE as many different ways to pay a spinner as there are spinning mills. However, the most widely used methods are the folllowing:

1. Hourly rate predicated on the number of spindles the operator is tending.
2. Piece rate based on the weight of yarn or counts produced.
3. Piece rate based on the front-roll speed.

If the last method is used, hank clocks are attached to the front roll, and the operator is paid by the hank. Unless carefully checked, this method can lead to abuses, inasmuch as the operator is paid for full bobbins, half full, and empty bobbins alike.

The work load of a spinner is very flexible and has to be taken into consideration if rates are to be compared.

There are three jobs to perform on spinning frames: (a) piecing up broken ends and replacing roving (b) cleaning the machines, particularly carriers and separators; (c) doffing.

In worsted mills with up to 8 or 9 frames, it is more economical to do without doffers and make the spinners doff all the frames. In such mills, the assignment is usually 300 spindles per operator. The most widely used practice, however, consists of assigning two frames, or 400 spindles, to one spinner, making the spinner piece up and clean, but relieving her of the job of doffing, which is accomplished by a special crew of doffers. In some mills the cleaning is also done by special crews.

Incentive rates in the spinning room are often worked out on a collective basis. With a large group, a collective incentive loses a great deal of its value. Individual incentives have also a serious drawback. Since the machine runs from doff to doff at a given speed, the operator cannot do anything to earn more money while it is running. There are good spinners and poor spinners; and during the time the machine is running, they will both make the same amount of money. This is definitely wrong.

The only way the problem can be solved is by giving the spinner a chance to regulate the speed of her machine.

When the machine comes to doff, time can be saved by starting the frame as soon as possible. This saving is in proportion with the count produced. On fine counts it is negligible. On a 3-in. ring a 1/32 worsted doffs only once in 8 hr. The usual time allowed for doffing is 6 to 8 min., which makes any appreciable saving possible.

In order to introduce an effective incentive, each spinning frame must be equipped with an individual variable-speed drive that can be adjusted by the operator without the foreman's intervention. The advantages are tremendous not only from the incentive standpoint but also in view of differences in day-to-day conditions and in running quality of the stock.

It is usually very hard to keep a spinning room at an ideal relative humidity. This results in the generally adopted practice of adjusting speeds to the worst condition. But, with variable-speed drives adjustable by the operator, the best is made of every good spinning day; and the good spinner can run her frames 500 to 800 r.p.m. faster than the average spinner. Another feature that generally slows down production is the fact that a yarn may stand a spindle speed of 7,200 r.p.m. when the bobbin is filling up, but will take only 6,500 r.p.m. right after doffing. With the variable-speed drive, the operator can start her frame in 'low gear" like an automobile and speed it up gradually, thus making less waste and producing more yarn.

The biggest advantages are that spinners are actually paid according to their abilities, the gradual elimination of poor spinners, and an amazing increase in production. The writer believes that a proper incentive rate coupled with the variable-speed drive will result in a gain of 10 to 15% in production.

Spinning Production Chart

Operator.....	Side 1	Side 2	Side 3	Side 4	Total	Rate per Hr.	Pay
Hanks							
Possible lbs.							
Actual lbs.							

Fig. 2. Production and pay are easily calculated by using simple production chart.

Thorough MACHINE INSPECTIONS Are Basis of Good Maintenance·

HIGHLIGHTS: *Time-tested procedures used in compiling machinery inspection forms—Thorough examination of each machine necessary to insure adequate maintenance — Good inspection program must start with electrical equipment.*

By FRANK L. BYRD

Superintendent of Weaving Maintenance, Dan River Mills

ELECTRICAL MAINTENANCE INSPECTION — PART ONE

MOTORS

DIVISION____ DATE____ INSPECTOR____ MILL NO.____ DEPT.____

LEGEND

1—Good
2—Fair
3—Bad
4—Loose
5—Missing
6—Broken
7—Needs Lubricant
8—Excessive Lubricant
9—Oil Ring Stuck or Worn
10—Oil Wick Missing or Bad
11—Improper Tension
12—Improperly Set
13—Misaligned
14—Bolts Missing
15—Screw Missing
16—High
17—Low
18—Overloaded
19—Short Circuits
20—Grounded Coils
21—End Play Excessive
22—Oil Level Low
23—Oil or Grease Dirty
24—Unsoldered
25—Points Burned or Arced
26—Latch on Door Broken
27—Rods Missing
28—Too Close

Volts																							
Type of Machine Driven																							
Machine Numbers																							
Stator Winding																							
Brushes																							
Rotor																							
Armature																							
Commutator																							
Field Coils																							
Shaft																							
Key Way																							
Bearings																							
Oil Wells																							
Gear or Pulley																							
Fuse Box																							
Switch and Box																							
Greenfield																							
Ground Wire																							
Foundation or Base																							
Insulation Resistance																							
Pyrometer Readings	L																						
	R																						
Voltage																							
Ammeter Test																							
Lugs and Connections																							
Stator Bars																							
Clearance																							

Notes and Additional Items on Reverse Side

Fig. 1. *After checking all the items listed, there should be few, if any, unexpected failures of electric motors.*

THOROUGHNESS OF INSPECTIONS is the basis of success of any maintenance program. A good maintenance program assures continuing high-par operating conditions, but a thorough machinery inspection program is necessary to make certain that maintenance is adequate. Considering that equipment sometimes is valued at many millions of dollars, and that good organization depends on standardized employee assignments, it is necessary that every possible precaution be taken to keep machinery in good operating condition.

The inspection forms for various pieces of equipment, as illustrated in this article, have been tried, tested, and revised many times. They permit a great amount of work to be done by an inspector in the course of his rounds.

Basically, an inspection program must start with the source of energy, which naturally means motors and electrical equipment. In Fig. 1, the electric motor inspection form, 23 items of major importance are listed; and a legend of 28 points which cover the various easily-detected faults permits any irregularities to be easily lifted out for immediate attention.

Wiring systems, switchboards, panel boxes and conduit lines are also covered in the electrical inspection; but since the items are scattered it has not been found to be consistent to draft a form for them. However, on the completion of the inspection outlined above, this auxiliary and miscellaneous equipment is given the same rigid going over.

OPENING EQUIPMENT AND PICKERS. Equipment in the opening department is subject to conditions that are unavoidably dirty. Even though it is heavily constructed, there are many parts that frequently become loosened, show wear, or otherwise reduce the efficiency of the machine.

Fig. 2 shows the inspection form for opening equipment. It is divided into seven parts: (a) feeders and bale breakers; (b) vertical openers and Centrif-air machines; (c) lattice and Davis openers; (d) condensers and screen sections; (e)

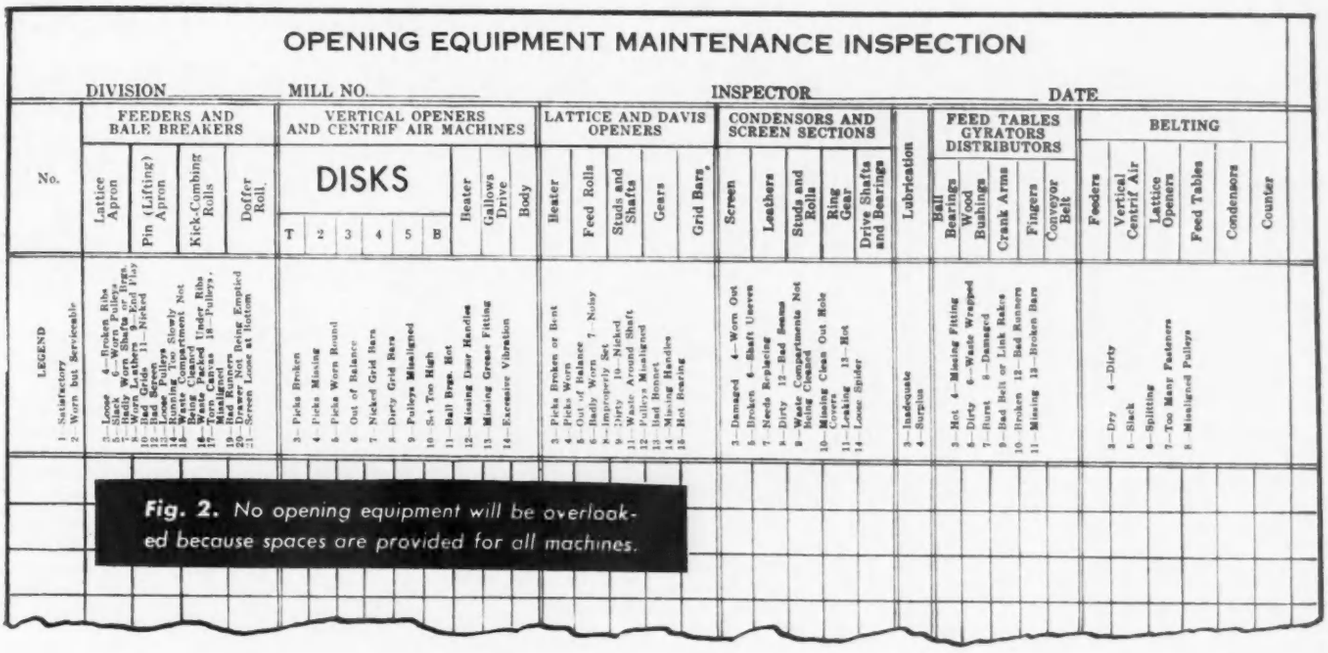


Fig. 2. *No opening equipment will be overlooked because spaces are provided for all machines.*

lubrication; (f) feed table, gyrators, and distributors; and (g) belting.

Fig. 3 illustrates the picker inspection form. It covers the major parts of the machines, and has spaces provided at the bottom for entering the various settings.

CARDS, DRAWING AND COMBERS. Quality of work done on cards is revealed in all subsequent processes, which naturally requires the cards to be kept in the very best condition. Fig. 4 is the inspection form for cards. It covers all the exposed parts, and provides the necessary legend on the face of the form.

Unexposed working parts of the card are handled on a special form (Fig. 5.) which includes lickerin, feed plate, mote knives, clothing, screens, and plates. The inspection made on this form also includes the critical settings.

The form for drawing frames (Fig. 6) lists all the parts of the machine that give trouble or cause irregularity so far as quality is concerned. Thirty-four items, with legend included, on this form cover the equipment thoroughly.

The form for lap winders (Fig. 7) is divided into two main sections, with spaces for other individual parts that need regular inspection. In the main groups, as well as the individual parts, a legend of common faults proves to be convenient. To permit rapid but thorough inspection, these parts are arranged on the form in logical sequence.

The inspection form for combers (Fig. 8) lists parts that are most likely to be found in poor condition or out of adjustment. There are 24 parts included on the form, and they are so divided as

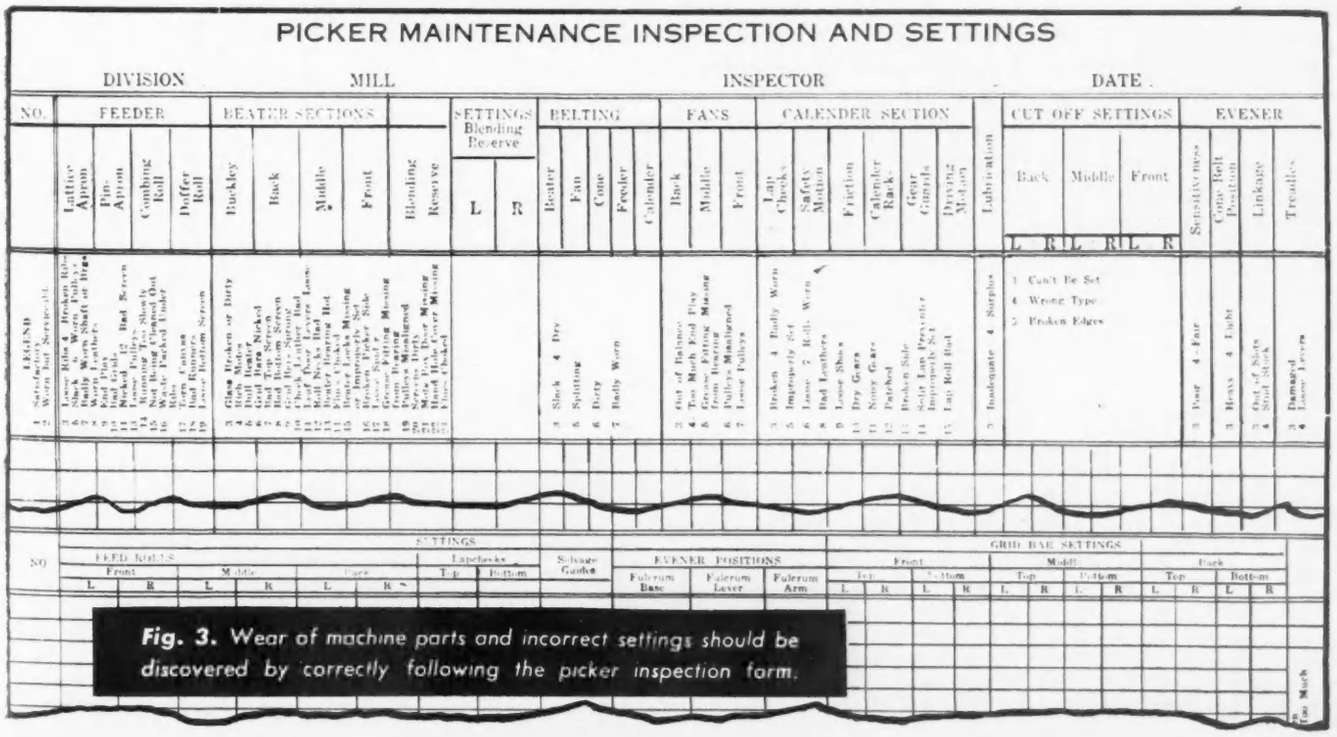


Fig. 3. *Wear of machine parts and incorrect settings should be discovered by correctly following the picker inspection form.*

CARD MAINTENANCE

DIVISION_____ MILL NO._____ FLOOR_____

LEGEND
1—Satisfactory
2—Badly Worn
3—Worn but Serviceable

TEMPERATURE

4—Rattling 6—Dirty
5—U-Bolt Broken

4—Hot 5—Misaligned
6—Loose Cap

4—Loose Blade
5—Improperly Set
6 Loose Finger
7 Bent Teeth
8 Broken Teeth

4—Dirty 5—Missing
6 Improperly Set
7 Shaft Badly Worn
8 Not Turning
9 Chain Badly Worn
10 Loose

4—Loose 6—Dirty
5—Needs Cutting

4—Missing Thrust Washer
5—Needs Thrust Washer
6—Worm Gear Badly Worn
7—Needs Lubricant

4—Misaligned 7—Loose
5—Screws Missing
6—Broken Arm

4 4—Bad Surfaces
5 Improperly Set
6 Bad Bearings

4—Broken Hinge
5—Broken Latch
6—Missing

4—Broken 8—Loose
5—Missing Parts
6—Rest Too Long
7—Rest Worn Short
9—Dirty

4—Dirty 5—Loose
6—Improperly Set 7—Broken Cover
8—Set Screw Loose or Bad
9—Set Screw Missing 10—Bad Key
11—Bad Key Seat 12—Broken Teeth
13—Loose Stud 14—Handle Broken
15—Pin Missing 16—Needs Oil
17—Broken

	COMB BOX	COMBS: DOFFER Bearing	COMBS: DOFFER Blade	COMBS: Hackle	COMBS: Flat	BRUSHES: Spiral	BRUSHES: Rotary L	BRUSHES: Rotary R	BRUSHES: Clip L	BRUSHES: Clip R	Disk Leathers L	Disk Leathers R	FLATS: Chains	FLATS: Worms and Studs T	FLATS: Worms and Studs B	FLATS: Naked Actual Number	FLATS: Round Cornered Adjusting Nuts	Cylinder Door	COILER HEAD: Rolls	Door	Bonnet	Tongue	Trumpet	Turn Table	Tube Gear Plate	BEVEL GEARS: Top	BEVEL GEARS: Shaft	Flat Sprocket	Draft	Plate
1																														
2																														
3																														

CARD MAINTENANCE AND SETTINGS INSPECTION

DIVISION_____ MILL No._____ FLOOR_____ INSPECTOR_____ DATE_____

Legend: 1. Satisfactory; 2—Wavy 3—Dull 4—Bent Points 5—Under Size

CARD Nos.	LICKERIN SETTINGS L	LICKERIN SETTINGS R	FEED PLATE SETTINGS L	FEED PLATE SETTINGS R	Mote Knife Brackets: 2—Bad Face 3—Broken Lugs	MOTE KNIVES: 2—Welded 3—Not Parallel 4—Filled Slots 5—Knocked Down	MOTE KNIVES SETTINGS Top L	MOTE KNIVES SETTINGS Top R	MOTE KNIVES SETTINGS Bottom L	MOTE KNIVES SETTINGS Bottom R	FLAT WIRE: 2—Shedding 3—Bad 4—Short 5—Dull or Faced	FLAT WIRE: Probable Years of Service Left	DOFFER Clothing: 2—Faced or Dull 3—Short 4—Bad 5—Bits. or Loose	DOFFER Clothing: Probable Years of Service Left	DOFFER SETTINGS L	DOFFER SETTINGS R	Doffer Comb SETTINGS L	Doffer Comb SETTINGS R	Flat Comb SETTINGS L	Flat Comb SETTINGS R	CYLINDER SCREENS Back Section Bottom L	CYLINDER SCREENS Back Section Bottom R	CYLINDER SCREENS: 2—Broken Ribs 3—Throwing White Cotton	CYLINDER SCREENS Front Section SETTINGS Bottom L	CYLINDER SCREENS Front Section SETTINGS Bottom R	CYLINDER SCREENS Front Section SETTINGS Top L	CYLINDER SCREENS Front Section SETTINGS Top R	FRONT PLATES Top SETTINGS L	FRONT PLATES Top SETTINGS R	FRONT PLATES: 2—Sprung 3—Needs Packing 4—Cut	FRONT PLATES Bottom L	FRONT PLATES Bottom R	Stripper No. 22 Lea NOZZLES SETTINGS Doffer: 2—Broken 3—Uneven	Cylinder
1																																			
2																																			
3																																			
4																																			
5																																			
6																																			

Fig. 5. *Few, if any, incorrect card settings should exist after checking all the items listed.*

O.T.—725—1500—7 17-45

DRAW FRAME MAINTENANCE INSPECTION

DIVISION_____ MILL NO._____ FLOOR_____ INSPECTOR_____ DATE_____

CONDITIONS—
Oiling_____
Cleanliness_____
Remarks_____

LEGEND
1. Satisfactory
2. Worn but Serviceable

3—Noisy
4—Badly Worn
5—Broken Teeth
6—Dirty
7—Needs Lubricant
8—Loose
9—Improperly Set
10—Loose Pie Plates
11—Groove Clogged
12—Hot
13—Cover Missing

3—Loose 4—Broken Hinge
5—Dirty Inside
3—Necks Badly Worn 7—Crooked
4—Bearings Badly Worn
5—Grooved 6—Undersize
3—Dirty 5—Stopped
4—Needs Oiling
3—Dirty 5—Missing
4—Unevenly Hung
3—Hot 4—Badly Worn 5—Dirty
6—Bottle Oiler Empty or Stem Dirty
3—Mushroom Top
4—Not Filled to Capacity
3—Don't Revolve
4—Improperly Set
5—Dirty 6—Need Replacing
3—Hot 4—Badly Worn 5—Need Cleaning
4—Dry Roll Necks
3—Hot 4—Cracked
5—Lapped Up
3—Dirty 5—Loose
4—Dials Not Clear
3—Tight 4—Heavy
3—Loose 5—Damaged
4—Worn Nose
3—Sluggish 4—Dirty
5—Spoon Bar Improperly Set
6—Full Can Fingers Worn
3—Dry 4—Slack
5—Misaligned
3—Missing 4—Dirty
5—Damaged

FRAME NOS:	Cut Top Rolls	Slack Selvages	Spoons Out of Balance	Spoons Out of Spanner	Weight Hooks Not Hung	GEARING AND GEAR STUDS: HEAD END Draft	Crown	Front Roll	Back Roll	Tension Drive	Tension Compound	Tension	Calender Roll	Coiler Drive	FOOT END Front Roll	F. R. Compound	Second Roll	Third Roll	Fourth Roll	Back Roll	B. R. Compound	Lap Tension Train	Turn Tables and Gears	Tube Gears	Tube Gear Plates	Gear Covers	Calender Rolls	Traverse Bar	Weight Hooks	Drive Shaft Bearings	Full Cans Coiling	Clearers	Top Roll Bearings	Steel Rolls and Stands	Hank Clock	Tension	Trumpets	Knock Off Motion	Drive Belt and Pulley	Spoons
ACTUAL NUMBER																																							

Fig. 6. *No drawing-frame parts that cause irregularities will be overlooked when following this form.*

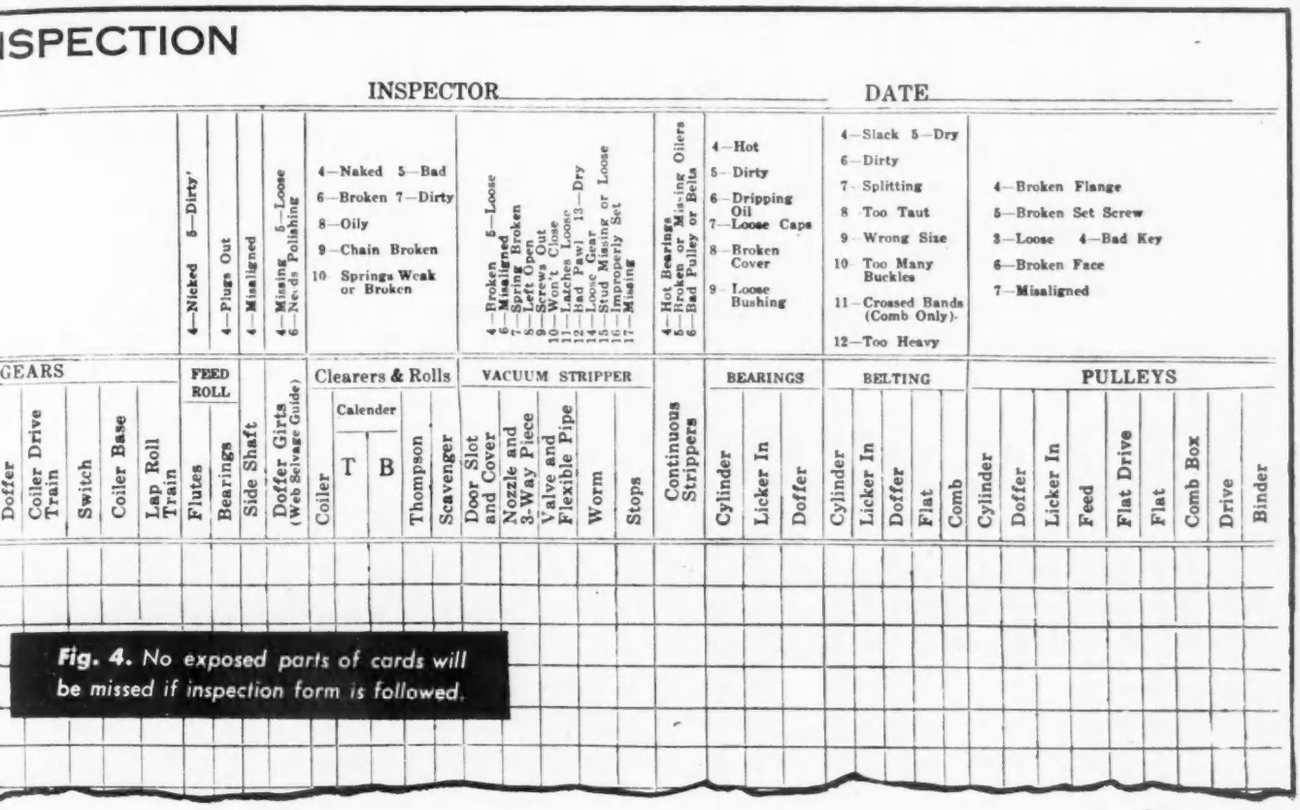


Fig. 4. *No exposed parts of cards will be missed if inspection form is followed.*

to apply the legend to the individual parts.

ROVING, SPINNING, AND TWISTING INSPECTION. More than mechanical condition is of importance on roving frames, so it is important to gain as much data as possible while going over each machine. Two forms are used. Roll settings, condition of bobbin gears, and broken back ends are recorded on the small form (Fig. 9); and other data are recorded on the large form (Fig. 10). Thirty-one groups and items to be checked are shown in Fig. 10, and are arranged for thorough coverage of all quality-controlling parts. The legend covers all parts, which alloys a complete report on a large number of machines.

Using the form shown in Fig. 11, the inspection of spinning frames and twisters is made by checking frames while they are running, then completing the examination with the machines stopped. Further spinning maintenance is done as outlined on the form illustrated in Fig. 12, which shows the running condition of twenty-seven important items, along with many that might be missing.

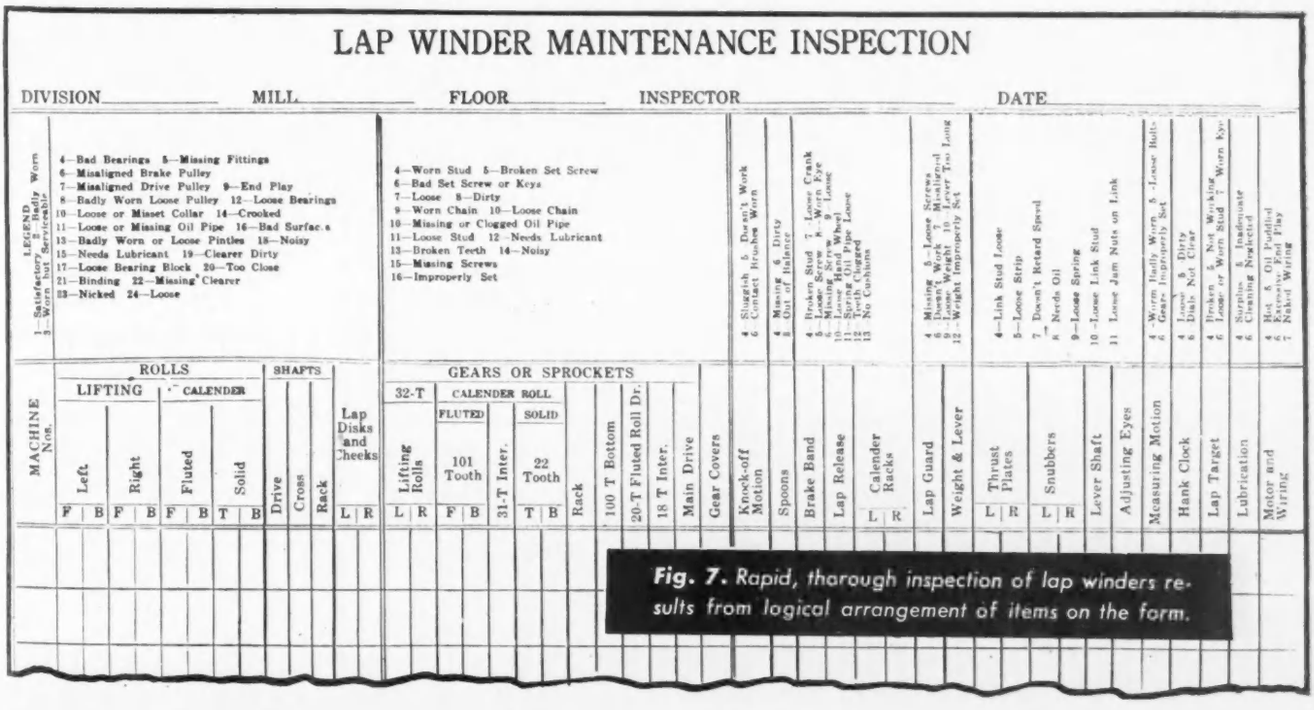


Fig. 7. *Rapid, thorough inspection of lap winders results from logical arrangement of items on the form.*

COMBER MAINTENANCE INSPECTION

DIVISION _____ ROOM _____ INSPECTOR _____ DATE _____

No.	Drive Shaft Bearings	Head Drive Gearing	Draw Box Gearing	COILER HEADS: Roll Bevel Gears	Upright Shaft Gears	Tube Gear Plates	Turn Tables	Calendar Roll Bearings	Rolls	Bonnet	Segments	Top Combs	Compression Unit	Feed Rolls	Draw Boxes	Nipper Motion	Detaching Rolls	Roller Motion: Side No. 1	Roller Motion: Side No. 2	Brushes and Aspirators (Fans)	Shock Absorber	Full Can Stop Motion	Shipper Handles	Hank Clock	Oiling
Legend 1. Satisfactory	2—Worn 3—Hot 4—Surplus Lubricant 5—Inadequate Lubricant 6—Improperly Set 7—Noisy 8—Dirty							2—Bad Surface 3—Worn Bearings	2—Broken		2—Mistimed 3—Missing Needles 5—Bent Needles 5—Broken Needle Bars 6—Half Laps Choked 7—Loose Half Laps 8—Worn Lever Arms 9—Arm Roller Missing		2 Roll Stock 3 Roll Flat Sided	2—Worn Ratchet or Pawl 3—Worn Pawl Pins 4—Flutes Dirty 5—Hot	2—Dirty 3—Rough Rolls 3—Guides Missing 4—Loose Casings	2—Choked or Dirty 3—Actuating Slide Worn 4—Oil Tubes Out 5—Rough	2—Guides Badly Set 3—Flutes Dirty 4—Rockers Dirty 5—Top Roll Surfaces Worn 6—Journals (Arbors) Dry 7—Stud or Block Worn 8—Missing Springs	2—Link Bearing Worn 3—Pawl Assembly Worn 4—Cam Choked or Worn		2—Fan Belt Loose 3—Dirty 4—Worn Brushes 6—Broken Sections 7—Choked Perforations	2—Springs Broken 4—Set Too Heavily	2—Dirty 3—Loose Gear 4—Doesn't Work	2—Loose 3—Broken	2—Dirty 3—Loose 4—Dials Not Clear	2—Surplus 3—Inadequate
1																									
2																									
3																									

Fig. 8. *Quality of comber sliver should be high after inspection of all the items listed.*

ROVING FRAME OPERATING INSPECTION

DIVISION..... MILL NO..... INSPECTOR.....

Frame Nos.	Cut Top Rolls Actual Number: 1	2	3	4	Bobbin Gears: Jumping	Improperly Set	Head End Steel Roll Settings: 1-2	2-3	3-4	Foot End Steel Roll Settings: 1-2	2-3	3-4	Broken Back Ends	Cap Bar Settings 1—Good 2—Irregular

Fig. 9. *Inspection of roving-frame rolls, roll settings, and bobbin gears should result in more production and better quality.*

ROVING FRAME

DIVISION _____ MILL NO. _____ FLOOR _____

FRAME NOS.	Top Rolls and Weighting	Spindles	Bolsters	GEARING: Front Draft	Back Draft	Front Crown	Back Crown	Front Roll	2nd Roll	3rd Roll	Back Roll	Twist Train	Lay Train	Lifting Roll	Tension Rack	Lifting Racks	Skip	Reversing	Compound	Rack Slides	Horseheads Chain Drives Head Gearing	Carriage Weights and Weight Chains	Chain Pulleys	Drive Pulleys	Clearers	Bearings: Jack Shaft	Top Cone	Bottom Cone	Lay Drive
LEGEND 1—Satisfactory	2—Dirty 3—Dry Arbors 4—Worn Saddles	2—Loose or Tight Gears 3—Steps Need Oiling 4—Slots Clogged	2—Hot Spindles 3—Worn	2—Broken Teeth 3—Dirty 4—Noisy 5—Improperly Set 6—Badly Worn 7—Needs Lubricant 8—Covers Loose or Broken 9—Hot															2—Need Grease 3—Dirty	2—Noisy 3—Dry 4—Improperly Set 5—Worn Gears or Chains	2—Chains Dirty 4—Short 3—Hooks Off 5—Long	2—Clogged Grooves 3—Do Not Turn	2—Worn 3—Misaligned 4—Out of Balance 2—Dirty 3—Missing		2—Hot 3—Dirty 4—Oiler Empty 5—Surplus Oil 6—Rust Emitting			

General Conditions

Lubrication _____

Fig. 10. *There should be very few production stoppages of roving frames due to failure of quality-controlling items after this inspection.*

SPINNING AND TWISTING MAINTENANCE INSPECTION (PHYSICAL)

DIVISION_____ MILL_____ FLOOR_____ INSPECTOR_____ DATE_____

LEGEND
1—Satisfactory
2—Worn But Serviceable
3—Needs Attention

4—Worn Badly
9—Dirty
5—Improperly Set
6—Badly Worn Bind
7—Needs Lubricant
8—Base Full of Oil
11—Covers Loose or Broken
10—Noisy
12—Loose
13—Hot
14—Skipping Picks
15—Oil Pipe Missing
16—Oil Pipe Cap Missing or Broken
17—Oil Pipe Loose
18—Oil Hole Clogged

GENERAL CONDITIONS
Cleanliness

GEARING AND GEAR STUDS

Frame Nos.	Draft	Crown	Middle Roll	Back Roll	Back Crown	Front Roll	Head Front Roll	Intermediate L	Intermediate R	Twist	Twist	Jack	Cylinder	Lay Compound	Lay Intermediate	Lay Bevels	Lay	Lay Worm	Pick
1																			
2																			
23																			

Frame Nos.	Head End	Cylinders	Drive Belt	Bearings: Cylinder	Out Rigger	Builder Shaft	Lay Shaft	Drive Pulleys T	Drive Pulleys L	R.P.M. Cylinder
1										
2										
23										

6—Door Handle Off
7—Door Loose or Broken
6—Hose Loose or Broken

4—Out of Balance
5—Damaged

4—Slack
5—Dirty
7—Too Taut

10—Needs Oil
11—Not Pinned
12—Out of Balance
13—Loose Set Screw
14—Rod Key Seat
15—Broken Face
16—Misaligned
17—Oil Pipe Missing
18—Oil Pipe Cap Missing or Broken
19—Oil Pipe Loose or Clogged

Frame Nos.	Roll Traverse	Pittman Roll	Build of Bobbin	Creels	Builder	Lubrication	Roll Stands	Badly Worn Bolsters	Weight Levers	Tape Pulleys	Steel Roll Surfaces	Safety Latch	Ring Rail
1													
2													
23													

4—Short Stroke
5—Rod Bent
4—Worn Flat Sided
5—Stuck
6—Wrong Pos.
4—Bad Bunch
5—Bad Shape
6—Short Stroke
4—Uneven
7—Broken Strap
6—Short Skewers
7—Dirty
8—Worn Gears
4—Loose Chains
5—Bad Pawl
6—Worn Shafts
4—Inadequate
5—Surplus
4—Dirty
5—Surplus Oil
6—Needs Grease
6—Misaligned (Hot)
4—Not Level
5—Worn Points
6—Irregularly Worn
4—Missing
5—Damaged
6—Broken
7—Sticky
8—Worn
10—Tape Off
6—Tapes Too Short
4—Damaged
5—Nicked
6—Broken
6—Missing
6—Doesn't Work
4—Lifting Rods Stuck
5—Dwelling at Change
6—Jumping at Change

Actual Number

Fig. 11. *Any defects in running performance and mechanical condition of spinning frames and twisters should be discovered by checking all the items listed.*

SPINNING MAINTENANCE INSPECTION

DIVISION_____ MILL NO._____ FLOOR_____ INSPECTOR_____ DATE_____

LEGEND
1. Satisfactory
2. Worn But Serviceable
3. Badly Worn

General Conditions_____

Oiling_____

Cleaning_____

4—Loose
5—Dirty
6—Dials Not Clear
7—Glass Broken

4—Loose
5—Broken
6—Improperly Set
M—Motor

4—Loose
5—Broken
6—Missing

4—Need Cleaning

5—Wicking Oil

FRAME NOS.	CUT TOP ROLLS 1	2	3	Broken Back Ends	Laps on Steel Rolls	Tapes or Bands Off	Bent or Choked Trumpet	Loose Rings or Holders	Broken Rings	Doffer Guards Missing	Worn Cap Bars	Loose Separators	Worn Slip Rolls	Naked Slip Rolls	Bad Aprons	Missing Aprons	Badly Worn Saddles F	Badly Worn Saddles B	Saddles with Wicks Out	Top Rolls with Cut Necks	Scavenger Rolls: Not Turning	Scavenger Rolls: Missing	Broken Traveller Cleaners	Thread Guides: Missing	Thread Guides: Broken or Bent	Hank Clock	Belt Shipper	Shipper Handles	Top Clearers	Missing Skewers
1																														
2																														

ACTUAL NUMBER (* Missing)

Fig. 12. *Inspection of the twenty-seven items listed should provide important maintenance information on spinning frames.*

MAINTENANCE INSPECTION

TYPE_____ INSPECTOR_____ DATE_____

Cones	Cone Belt	Length of Stroke: Full	Length of Stroke: Empty	Hank Roving	Full Bobbin Diameter	Builder	Builder Dog	Flyers	Knock Off Motion	Carriage and Spindle Base	Casings: Spindle	Casings: Carriage	Couplings: Spindle Shaft	Couplings: Bobbin Shaft	Couplings: Lifting Shaft	Carriage Truck Wheels	Safety Latch	Creels	Grease and Oil Pipes	Hank Clock	Sliver Traverse	Bobbin Gears
2—Out of Balance 3—Misaligned	2—Worn Selvages 3—Rough Guides					2—Worn Jaws 3—Loose Screws 4—Choked Threads	2—Worn Point	2—Bosses Clogged 3—Pressers Bent 4—Striking	2—Finger Set Wrong 4—Weight Too Close	2—Dirty 3—Grease Caked In Bearings	2—Loose Guards 3—Missing Casings 4—Broken Guards 5—Loose Casings		2—Loose 3—Slipped	4—Set Screws Loose		2—Flat Sided 3—Dirty 4—Stuck or Won't Turn	2—Pin or Latch Missing 3—Improperly Set	2—Stands Loose 3—Broken Porcelain Cups 4—Improperly Set 5—Not Level	2—Loose 3—Clogged 4—Missing 5—Broken Caps	2—Loose 4—Dirty 3—Dials Not Clear	2—Loose 3—Worn Gears 4—Short Stroke	2—Need Oiling 3—Jumping
Starting Point																						

Improved COATING TECH N

HIGHLIGHTS: *Vinyl-resin coatings superior to leather for many uses—Ford Motor Co. technique uses 7-pass coating machine—Utilizes both steam and infra-red drying.*

By SELMA WINEMAN and HAVILAND F. REVES

IMPROVEMENTS IN TECHNIQUES and new types of coatings developed during the war are giving artificial leather a great impetus for a wider variety of uses during the postwar period.

One place where improvement is leading to a greater use is for upholstery and trim in car interiors. War-learned developments have led to products which show a greater resistance to wear and scuffing than real leather, and the one-time objectionable tendency to peel and crack has been largely eliminated.

With the beginning of World War II, the government required great quantities of coated materials which would be even superior to those then in use in terms of wear, water-proof qualities, and resistance to mildew. In addition, the materials had to stand wide ranges of temperature and humidity.

The various vinyl resins, including polyvinyl chloride, polyvinyl butyral, and copolymer vinyl derivatives, were found to have superior qualities for many uses, the main advantages being in greater resistance to flexing, wear, mildew, water, chemicals, and light.

Many of the lessons learned during the development of coated textiles for war use are now applied with advantage to the postwar automobile interior. Ford Motor Co., which makes 95 to 98% of its own coated fabrics, is using some synthetic buna, but most of the materials are coated with the vinyl

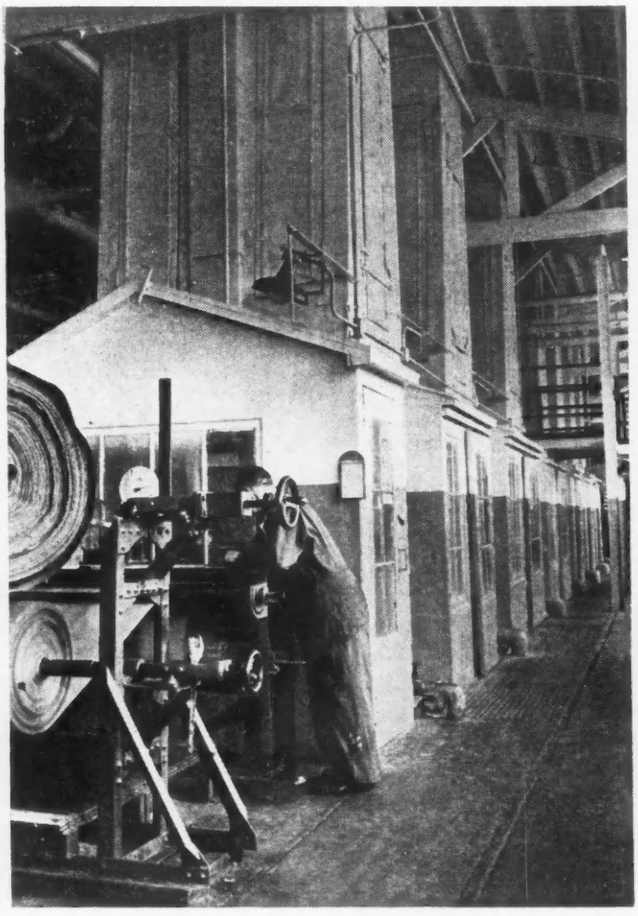


Fig. 1. Banks of vertical ovens in groups of seven allow seven resin coats to be applied in one continuous operation. After each coat, cloth is run 34 ft. high over steam-heated coils for immediate drying, then goes automatically into next oven for another coat. Fumes of ethyl benzol, alcohol, and ethyl acetate driven off by heat are pumped into tanks and processed for reuse.

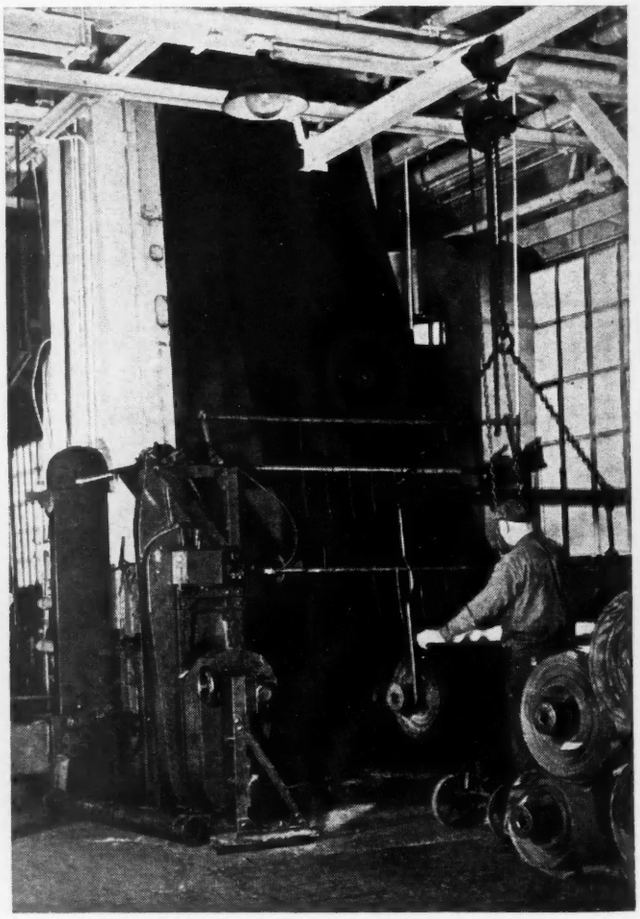


Fig. 2. After base coats have been applied, material is run through single ovens to apply the required color. Again the oven is vertical, and steam-heated coils bake on the color and leave it ready for further processing. Usually at least two coats, and sometimes more, of the lacquer coloring are applied to the material depending on the effect desired and the service expected.

CH NIQUES Produce Better Art Leather

resins or pyroxylin. Polyvinyl butyral is used for truck interiors, where toughness and long-wearing qualities are of greatest importance. Vinyl chloride, copolymer, and pyroxylin are the preferred coatings for passenger cars.

All Ford's artificial leather manufacturing starts with large rolls of cotton fabric, in widths of 35 to 58 in. On this are applied from 2 to 14 coats, depending on the type of leather desired.

Because of the natural mildew-resistant qualities of vinyl, little consideration is given to mildew-proofing for domestic consumption, but for cars being exported to highly humid areas, special mildew-resistant materials are included in the coatings of fabrics going into the car interiors. Because of the greater expense of this processing and its limited need, it is not used extensively.

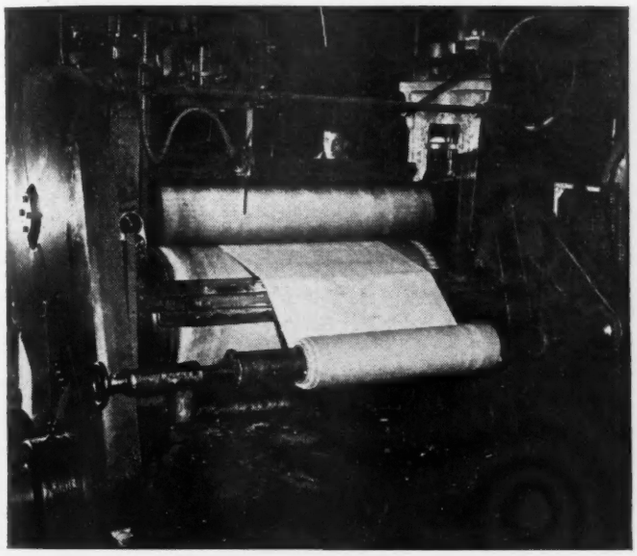


Fig. 3. Embossed leather grain pattern is obtained from a picture of an actual cow hide. Chromium-plated embossing roll is heated to the optimum temperature for the work.

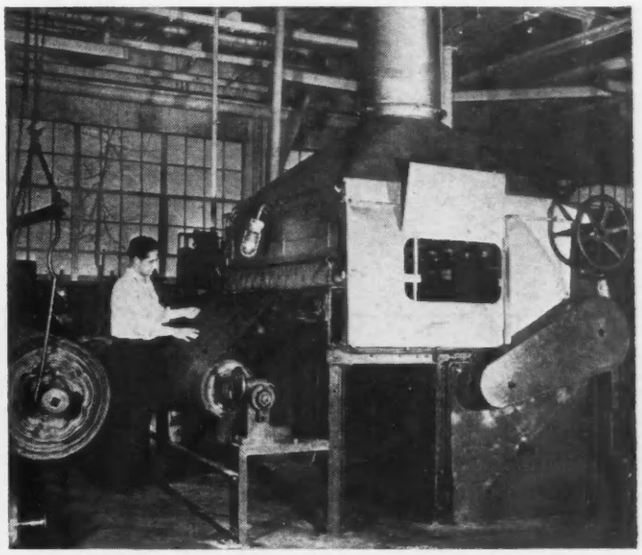


Fig. 4. Lacquer color is printed on and baked under a bank of 50 infra-red lights. Essential oil introduced during processing masks chemical odors.

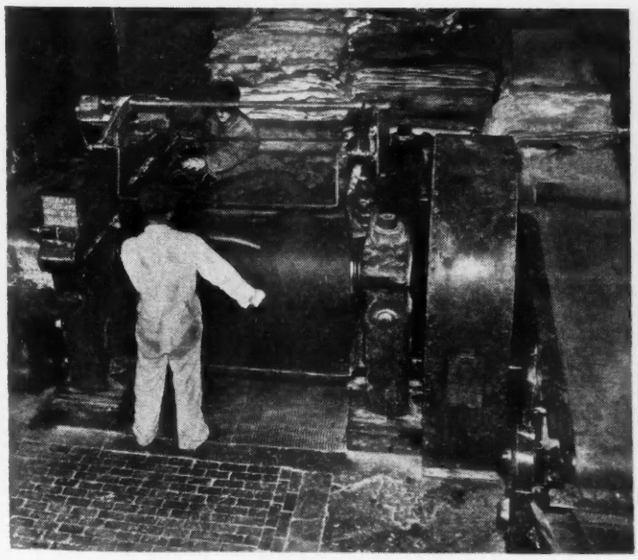


Fig. 5. Synthetic rubber for coatings comes in large irregular sheets of solid material. It is kneaded between two large steel steam-heated rollers and at the same time color is worked into it.

Fig. 6. Synthetic rubber is forced into the weave of the cloth with calender rolls by a process called "frictioning." The bond between the rubber and the cloth is permanent for all normal uses.

PAYROLL CONSTANTS
Save Overseer's Time

HIGHLIGHTS: *Calculation of spinners' wages simplified by payroll-constant chart—Chart based upon rates per side for 40 hr.—Wages for job layouts of varied numbers computed quickly.*

By F. H. GUNTHER and MARCUS GROSS

THE PROBLEM CAUSED by a payroll error in the wages of a good spinner is a pressing one to most overseers of spinning; and if there is difficulty in computing the correct amount without resorting to the payroll department, the problem is intensified.

In cases where spinners are paid by the side, a payroll-constant chart, such as shown in Fig. 1, is a convenient solution for the problem of wage calculations. Usually, the spinner reports the error to the overseer; and by using his payroll chart, the overseer can find the error quickly without the usual detailed calculations and without calling the payroll department.

Rates applied to side spinning are generally determined on the job, or task, basis. The total sides of the job are divided into the weekly wage to obtain a weekly rate per side. This rate becomes standard for a given yarn count.

The chart can be used for operating schedules of 40 or 48 hr. When weekly hours are increased or reduced, the basic rate per side does not change except in the event of an increase or decrease in wages. For example, if the rate per side on a 40-hr. basis is $2.50, and the working hours are changed to 48, the basic rate of $2.50 per side does not change; but the payroll constant will increase proportionately. However, the chart can be used to figure wages regardless of the hour of rate.

PAYROLL CONSTANTS

Side	Hours Run															
	1/4	1/2	3/4	1	2	3	4	5	6	7	8	9	16	24	32	40
1	.00625	.0125	.01875	.025	.05	.075	.1	.125	.15	.175	.2	.225	.4	.6	.8	1.
2	.0125	.025	.0375	.05	.1	.15	.2	.250	.3	.35	.4	.45	.8	1.2	1.6	2.
3	.01875	.0375	.05625	.075	.15	.225	.3	.375	.45	.525	.6	.675	1.2	1.8	2.4	3.
4	.025	.05	.075	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.6	2.4	3.2	4.
5	.03125	.0625	.09375	.125	.25	.375	.5	.625	.75	.875	1.0	1.125	2.0	3.0	4.0	5.
6	.0375	.075	.1125	.15	.3	.45	.6	.75	.9	1.05	1.2	1.35	2.4	3.6	4.8	6.
7	.04375	.0875	.13125	.175	.35	.525	.7	.875	1.05	1.225	1.4	1.575	2.8	4.2	5.6	7.
8	.05	.1	.15	.2	.4	.6	.8	1.0	1.2	1.4	1.6	1.8	3.2	4.8	6.4	8.
9	.05625	.1125	.16875	.225	.45	.675	.9	1.125	1.35	1.575	1.8	2.025	3.6	5.4	7.2	9.
10	.0625	.125	.1875	.25	.5	.75	1.0	1.25	1.5	1.75	2.0	2.25	4.0	6.0	8.0	10.
11	.06875	.1375	.20625	.275	.55	.825	1.1	1.375	1.65	1.925	2.2	2.475	4.4	6.6	8.8	11.
12	.075	.15	.225	.3	.6	.9	1.2	1.5	1.8	2.1	2.4	2.7	4.8	7.2	9.6	12.

Fig. 1. When paying the spinner by the rate per side for 40 hr., the overseer finds the above payroll-constant chart invaluable.

HOW TO COMPUTE ONE SPINNER'S WAGE

	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Total Hr	Sides	Rate	Wages
Hr.	8	8	8	8	8		40			
22s.	6	6	6	5	8			6.2	$2.75	$17.05
27s.	4	6	4	7	4			5.0	$2.75	$13.75

Calculation from chart:

22s yarn—6 sides 24 hr.—constant	3.6
22s yarn—5 sides 8 hr.—constant	1.0
22s yarn—8 sides 8 hr.—constant	1.6
Sides tended	6.2

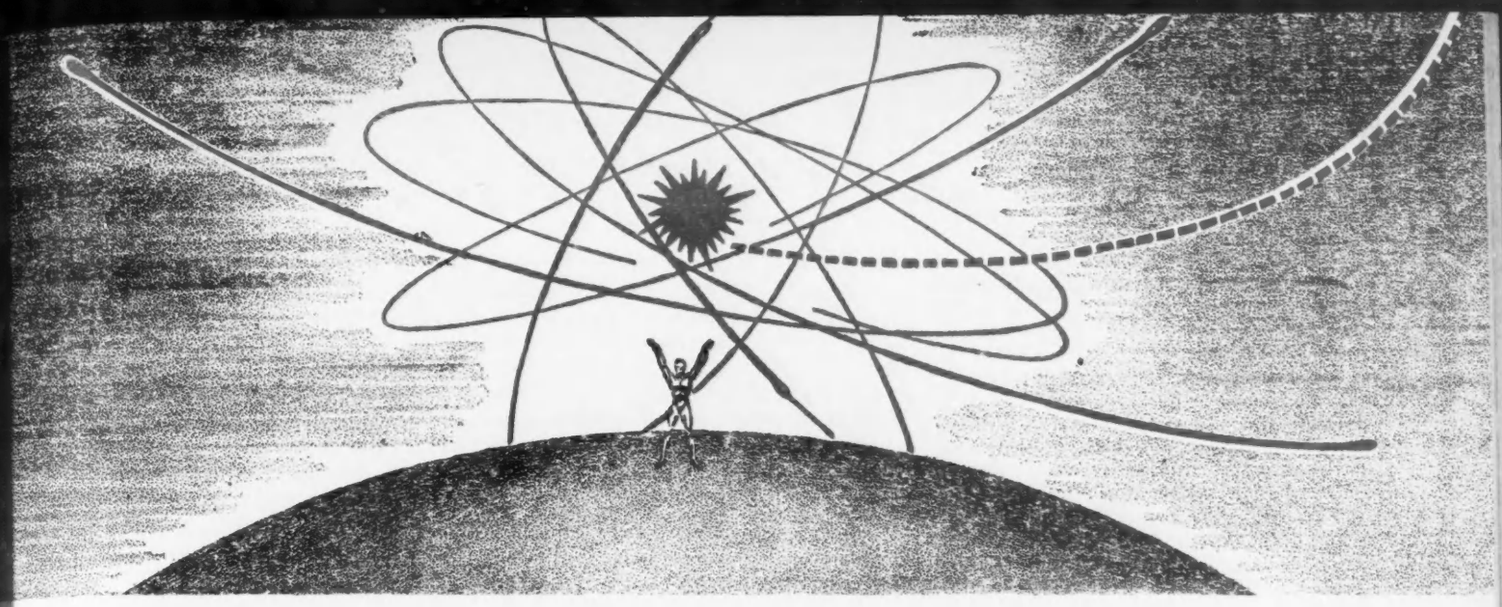
Fig. 2. An example of the use of the payroll-constant chart in computing a spinner's wages.

EXAMPLE. To use the chart in an instance of 10 sides operated for 40 hr., the overseer looks down the "40-hour" column opposite the "10-sides column" for the desired constant. In this case, the constant is 10. By multiplying the constant by the rate (10 x $2.50), the weekly wage is obtained.

If the spinner operates 11 sides 32 hr., the overseer finds the constant in the "32-hour" column opposite the "11-sides" column. This constant is 8.8, which represents the average sides worked out on a 40-hr. basis. This constant multiplied by the weekly rate per side gives the weekly wage.

If working hours are changed to 48, an additional column may be added to the chart to provide for the new working schedule. A spinner operating 10 sides 48 hr. would therefore have a constant of 12 in the new column. This constant may be found from the chart as it stands, without adding an extra column, however. The constant for 40 hr., 10, may be added to the constant for 8 hr., 2, to obtain the same constant for 48 hr.

Where spinners operate work-loads of several different numbers of yarn or sides during the course of a week, the value of a payroll-constant chart increases. An example of such a variable work-load is shown in Fig. 2. The variation in this job ran from a low of five sides on Thursday to a high of eight sides on Friday.



MAN vs ATOM—YEAR 1

WHEREIN WE SIGNALIZE THE FIRST ANNIVERSARY OF THE ATOMIC AGE, CONSIDER THE ALTERNATIVES INHERENT IN BOTH GOOD AND EVIL POTENTIALITIES OF NUCLEAR FISSION, THEN VENTURE A GLIMPSE INTO THE FUTURE

A YEAR AGO, July 16, 1945, at Alamogordo, New Mexico, man created the first atomic explosion. Most impressive events diminish in stature as they recede in time. This one grows bigger with each passing day. It truly marked the beginning of a new age.

As Year 1 of the Atomic Age ends and Year 2 begins, we are engaged in three portentous projects.

At Bikini Atoll we are detonating the fourth and, possibly, the fifth atomic explosions in the history of the world.

At Oak Ridge, Tennessee, we are building the first atomic energy plant for peaceful purposes.

Most important, in New York we and all the other United Nations are engaged in the first attempt to subject atomic energy to international control. Literally, the fate of the world hangs on this attempt.

As this introduction is written, the United Nations Atomic Energy Commission has just begun its work. People everywhere pray for its success—for their own sake, but even more for their children and for their grandchildren. If this Commission fails let everyone everywhere be warned: the world has taken a step toward destruction.

As we enter the second year of the Atomic Age, the nations of the earth are embarked on an atomic armaments race. There is no blinking that fact. We have had official notice served on us. Therefore, we must understand that unless the United Nations Commission can arrest the drift of events, we are moving toward a horrible war. The Commission must succeed.

The American delegate, Mr. Baruch, has brought to the Commission an ably thought out plan. It would internationalize nuclear science, and release for mankind the beneficent applications of atomic energy. But it would "control" atomic bombs only to the extent of giving the world brief warning of any nation's preparation to use them, so that we might have foreknowledge of disaster.

Therefore, the real and enormous task before the world becomes clear. We must end war. No other control of atomic weapons exists. If war comes, atomic weapons will be used. If they are used, our children who survive will curse their fathers. Understanding the consequences of failure, we *must* succeed.

Because we cannot succeed without knowledge, I have asked my associates at McGraw-Hill to condense into the following pages what we know at the close of Year 1 about this great new atomic force — its basic science, its possible uses and its political repercussions.

James H. McGraw, Jr.

President, McGraw-Hill Publishing Co., Inc.

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This Fateful Atom...

LOOKING BACK twelve months to the birth of Year 1, Atomic Age, we begin to sense the majestic import of the atomic bomb that blasted the naked desert at Alamogordo, N. M., on July 16, 1945. There man first shattered atoms in an explosive *fast-chain* reaction. Then came Hiroshima and Nagasaki.

In every case the fateful atom was either uranium 235 (U235), or plutonium derived from the action of U235 on U238. Every pound of U235 atoms split in these unprecedented blasts yielded the energy of 11.4 million kilowatt-hours, or 1400 tons of coal — slightly more for plutonium.

No matter where one mines uranium ore, the purified natural uranium (Fig. 1) always contains 99.3% of the "garden" variety U238, and a mere 0.7% of the precious U235.

An atom is like our solar system. The central sun is the nucleus—a bunched mass of protons and neutrons, each weighing one unit. The planets are electrons. Each proton has one plus electrical charge — each electron an equal negative charge. There must be as many negative electron planets as positive protons in the nucleus. This is also the "number" of the atom. Neutrons have no charge, but add weight.

The atomic number of uranium is 92 because the uranium atom always has 92 nuclear protons and 92 electron planets. The isotopes U238 and U235 differ only in the number of neutrons; U238 has 146 neutrons, and weighs 92 + 146 = 238 units. U235 has 143 neutrons, and weighs 92 + 143 = 235 units.

Ordinary chemical reactions, such as TNT explosions, release only a fraction of the modest energy of the whirling electrons in the outer atom. Nuclear reactions unlock the immensely greater energies which bind together the nucleus.

Even the gentle tap of a slow-moving neutron bullet will split the atom of U235 or of man-made plutonium into two medium-weight atoms, yielding also one to three spare neutrons plus energy. Thus these *fissionable* materials supply both their own bullets and a highly sensitive lot of high-explosive targets — a perfect setup for a *chain reaction* (Fig. 2).

Chain reactions work like chain letters. Neutrons from one nuclear explosion hit and explode other nuclei. But, since atoms are mostly open spaces a chain started in a small block of U235 or plutonium quickly dies out because most of the released neutrons escape from the block.

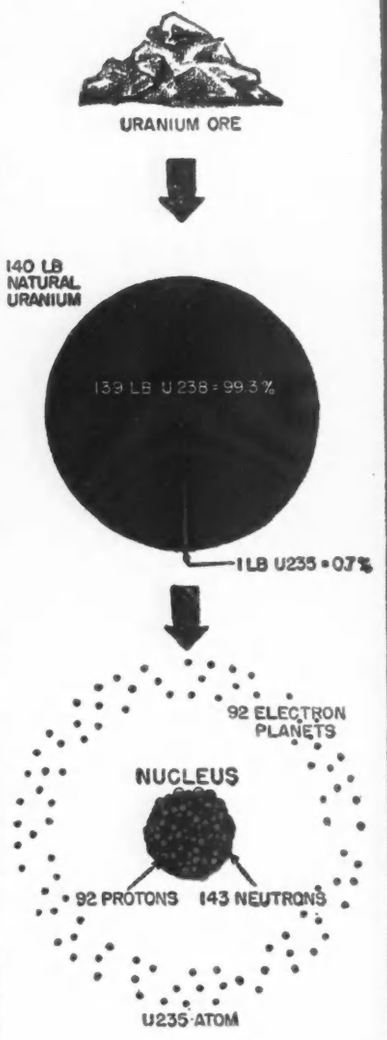
The bigger the block, the smaller will be the percentage of escaping neutrons, and the more left to split other nuclei. When the block is rapidly built up beyond a certain secret size the fragments of 1000 nuclear fissions split many more than 1000 additional nuclei. Then fissions multiply geometrically, and the block disintegrates with explosive speed and violence — as in a bomb (Fig. 3).

This bomb explosion is a fast-neutron chain. For economy and ease of control, uranium piles for the gradual release of nuclear energy for commercial purposes will normally use a lean fuel — that is U235 or plutonium diluted with U238, thorium or other less costly materials.

To maintain a chain reaction such piles must be large and artificially stimulated by using carbon blocks or some other *moderator* (Fig. 4) to slow many of the neutrons. Slow neutrons make more hits than fast neutrons because there is more time for them to be swerved from a straight path by the attraction of nearby nuclei, as shown below.

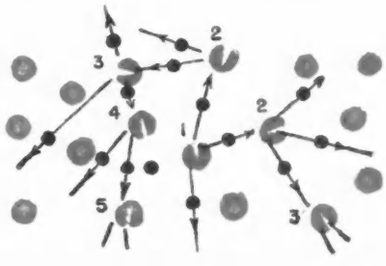
1 ORE TO U235

Only 0.7% of natural uranium is U235



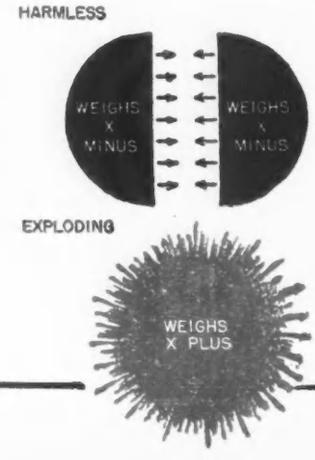
2 CHAIN REACTION

Fragments from earlier nuclear explosions smash other nuclei



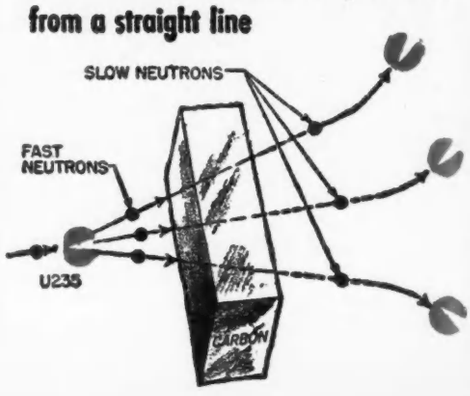
3 WHY BOMB EXPLODES

When block of rapidly assembled U235 passes secret critical size it explodes spontaneously



4 SLOW NEUTRONS MAKE MORE HITS

A slow neutron is more easily swerved from a straight line



...can Serve Man...

THE FATEFUL U235 ATOM can serve man as a new, compact source of heat energy for power generation, comfort heating or industrial processing. Peacetime applications of atomic energy will use dilute U235 or plutonium as a "fuel," mixed with carbon or some other moderator to slow some of the neutrons and thus keep the chain reaction going.

The diluting agent may be either U238 or thorium, or both. These will do double duty, because neutron bullets convert U238 into the energy-yielding plutonium, and thorium into U233, which may prove equally serviceable.

Thus the commercial piles of the future will "burn" U235 to make other atomic fuels, plutonium and possibly U233, which in turn will deliver heat energy to the pile. In that way it will be possible to get from the pile far more heat than the equivalent of 1400 tons of coal for each pound of U235 split. This highly attractive prospect will speed the day when nuclear energy can compete with coal.

While already mechanically obsolete, the piles making plutonium for bombs at Hanford, Wash. (Fig. 1) reveal the basic principle on which future piles for power and heat will operate. The heat now wasted in vast quantities will be put to work. The plutonium, now removed for bomb manufacture, will be returned to the pile (or left in) as supplementary fuel.

ATOMIC POWER

The possible everyday applications of nuclear heat pictured in Fig. 2 have been recognized from the very first day of the Atomic Age. Year 2 will see the building of the world's first atomic power plant (a pilot plant) at Oak Ridge, Tenn.

Beyond question such installations will produce power, but it may be years or decades before they prove economical. To compete with conventional plants the piles must first be redesigned to run at temperatures high enough for good power-plant efficiency. Also the techniques of operating piles by remote control through the heavy radiation screens must be radically streamlined.

The Hanford piles run on natural uranium containing only 0.7% of U235. The typical commercial atomic power plant of the future will use more than 0.7% of U235 or plutonium, but less than 50%. This will avoid both the low efficiency of the too-lean mixture and the excessive fuel cost of the rich mixture. It will permit piles of moderate size and take maximum advantage of U238 and thorium as potential sources of plutonium and U233.

One should not expect U235 to replace coal generally in this generation, although a few central power stations and ships will try it out before Year 10 of the Atomic Age. Plants far from traditional sources of fuels may turn much sooner to uranium and thorium as concentrated heat sources, that may easily be transported even to remote corners of the earth.

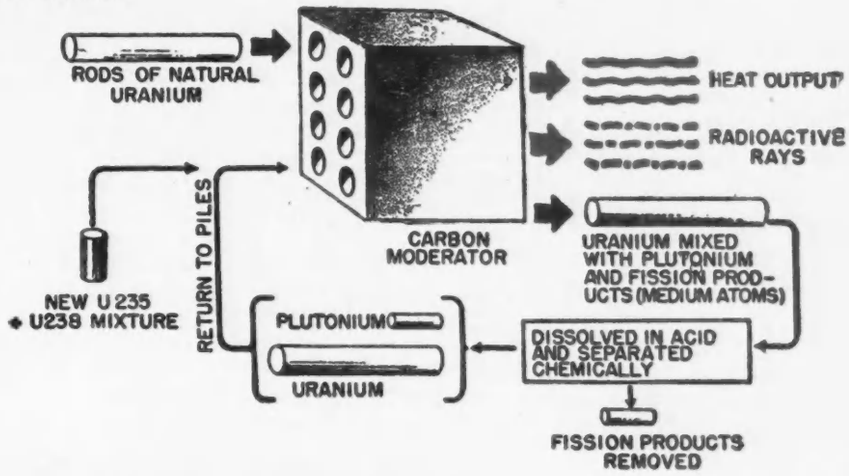
Atomic power, in forms now known, is impracticable for automobiles and small airplanes, because of the large initial investment in uranium and the need to carry 50 tons of shielding to protect riders and pedestrians against the deadly radioactivity accompanying nuclear fission.

RADIOACTIVE ISOTOPES

More immediately important than the heat and power applications of nuclear energy are the services that the radioactive byproducts of pile operation can render. Because these materials act chemically like their ordinary non-radioactive cousins, but can be followed and detected easily, they are expected to play tremendously vital parts in medicine and biology. For more details, see the last page of this section.

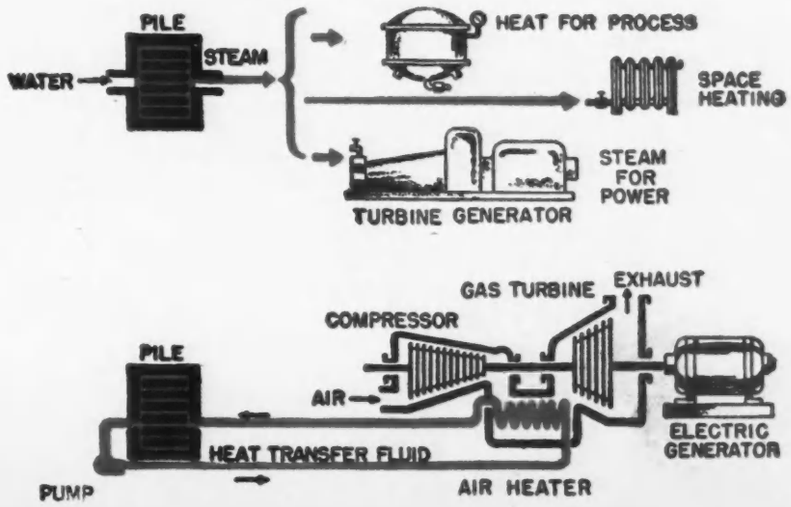
1 SLOW-NEUTRON PILE

Can make plutonium for bombs—or heat for power, process and comfort

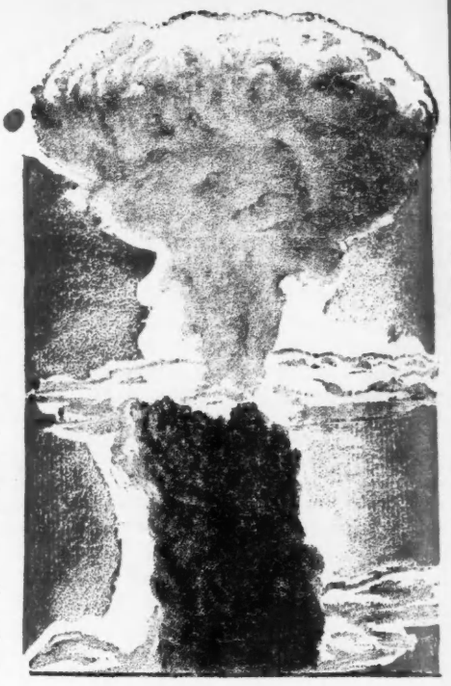


2 PRACTICAL APPLICATIONS

Include steam for turbines, process and comfort heating—also heat for gas turbines



or Destroy him . . .



A single improved atomic bomb can devastate ten square miles of city

URANIUM 235 and plutonium are now man's slaves. They will build or destroy as he orders. Man dreads this vast force only because he distrusts himself. War is proof that man in the mass has never achieved self-control. He has always sought better weapons; yet the perfect weapon now brings him no satisfaction for he sees in the atom bomb his own destruction as well as that of his enemy.

The ultimate benefits of nuclear energy may well surpass its present terrors, but the terrors are here now in awful dimension, and man must face them. He must pay this price for unlocking the wealth of the inner atom.

ATOMIC BOMB

This page, then, is about the atomic bomb. Nothing will be said here that is not either a certified scientific fact or a conclusion shared by the majority of the leading scientists, engineers and statesmen who have studied the matter.

As already explained, an explosive nuclear chain reaction spontaneously sweeps through a block of U235 or plutonium when the block is rapidly enlarged beyond a certain "critical" weight X. That weight is still a military secret; the official Smyth report vaguely suggests that it is more than 4 lb and less than 200 lb. Each piece of U235 in the dormant bomb must weigh less than X. At the desired instant of explosion the bomb mechanism assembles these pieces rapidly into a single piece considerably heavier than X.

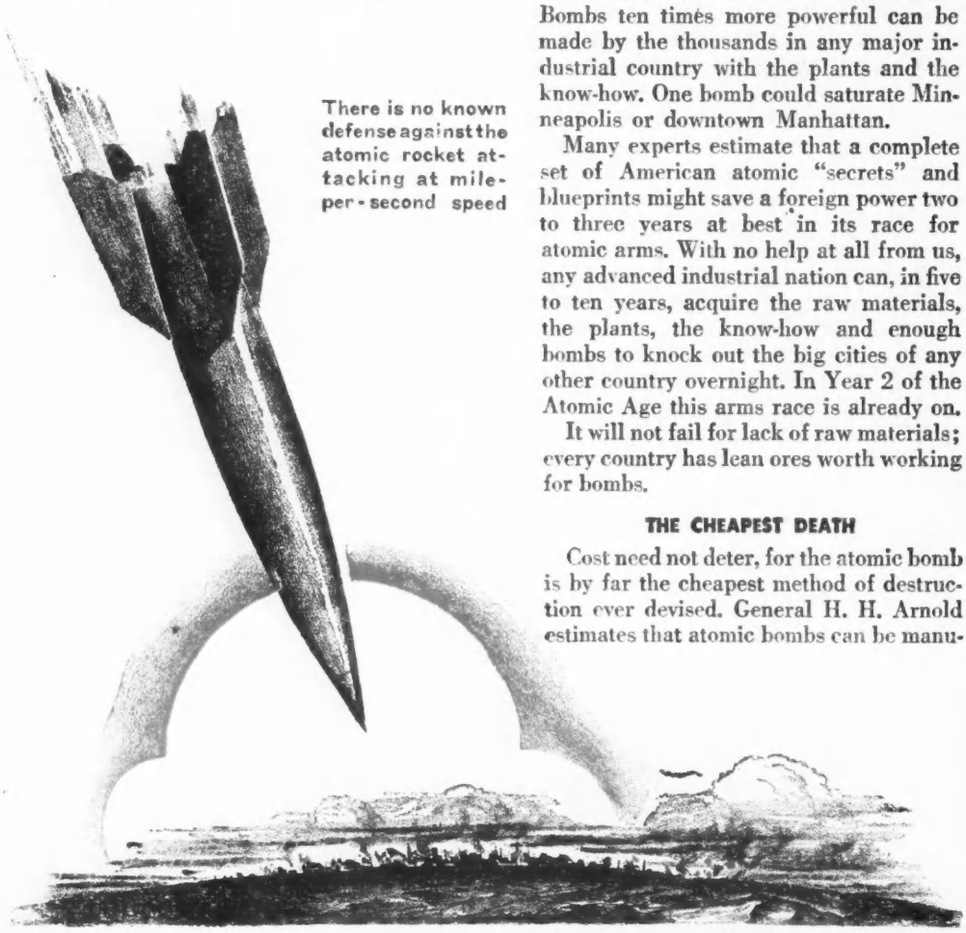
The explosion itself drives the U235 pieces apart, thereby quenching the atomic conflagration before all the atoms are split, so the bomb efficiency is far less than 100%. For each pound of U235 (or plutonium) atoms actually split, the bomb releases the energy of 1400 tons of coal.

This explosion is mainly ordinary heat at work in unprecedented concentration. Bomb metals become incandescent vapor millions of degrees hot. This, and the enveloping sphere of glowing air, radiate a blinding flash that chars human flesh at half a mile and blisters at over a mile. There is a destructive shock wave (sound) and a second-long hurricane of unimaginable force — the outrushing of the expanding heated air. Deadly neutrons and gamma rays speed out from the bomb.

A single atomic bomb killed about 100,000 at Hiroshima. Fewer died at Nagasaki only because the circle of potential destruction included much vacant land. Bombs ten times more powerful can be made by the thousands in any major industrial country with the plants and the know-how. One bomb could saturate Minneapolis or downtown Manhattan.

Many experts estimate that a complete set of American atomic "secrets" and blueprints might save a foreign power two to three years at best in its race for atomic arms. With no help at all from us, any advanced industrial nation can, in five to ten years, acquire the raw materials, the plants, the know-how and enough bombs to knock out the big cities of any other country overnight. In Year 2 of the Atomic Age this arms race is already on.

It will not fail for lack of raw materials; every country has lean ores worth working for bombs.



There is no known defense against the atomic rocket attacking at mile-per-second speed

THE CHEAPEST DEATH

Cost need not deter, for the atomic bomb is by far the cheapest method of destruction ever devised. General H. H. Arnold estimates that atomic bombs can be manufactured *and delivered* for less than $500,000 per square mile of destruction.

Don't be misled by the two billion dollars America spent on a project that dropped only two bombs on the enemy. New plants can be built at a fraction of wartime cost, and the investment spread over thousands of bombs, not just two.

NO DEFENSE

So the bombs can be made in ample quantity and paid for, but can they be delivered? The answer is: "Yes; by the time the bombs are ready they can be delivered anywhere and overnight." If the defenses of the target country are weak, piloted planes can get through in ample number. Ten percent would be enough.

For more effective delivery radio-steered pilotless planes and rockets can carry the atom bombs faster than sound. Such weapons will be almost untouchable by either antiaircraft artillery or manflown fighters.

Greatest threat of all will be the transoceanic rockets. The German V-2 rocket, which never once was stopped by Britain's defenders, points one way. It needs only transatlantic range (with atomic propulsion) and an atomic bomb in the nose. Forty-six feet long, loaded with 7500 lb of alcohol fuel and 11,000 lb of liquid oxygen, the V-2 of World War II rose 60 miles in the air and arced 200 miles in five minutes to deposit one ton of TNT in London.

Seeing so many strange things come to pass, the man in the street cannot distinguish between possible miracles and the impossible variety. From the very start of the Atomic Age he has been hoping for a "ray" that will explode the atom bomb far off. Competent scientists and engineers say that cannot be.

The only way to bring down a 3500-mile-per-hour rocket at a safe distance is to chase it with your own 4000-mph rocket. You can't win at this game often enough to establish ironclad protection.

The only specific defense against the atomic rocket known in Year 2 of the Atomic Age is to disperse all cities and put key industries underground. This would be very costly in time, money and national morale.

MORE AND BETTER BOMBS?

Some will ask whether the U.S., as the most powerful industrial nation, could not build more and better bombs and carriers than any other nation. Probably yes, but there is still no real security. If the "weak" opponent has enough atomic weapons to destroy us once, what advantage is there in being able to destroy him twice?

Shooting first could protect us now, but not after the world is atomically armed. If we were to destroy the enemy's cities, we would probably miss his well-concealed and protected bomb magazines and rocket launchers. A few minutes later he could return the atomic fire. In brutal simplicity, that is the picture of future atomic war. Everybody loses.

At this point one grasps at another straw: "If everybody is to lose who would be so foolish as to start an atomic war? And didn't the Germans refrain from using gas for a similar reason?" Possibly yes. It *may* work that way. But in a world atomically armed to the teeth some nervous finger *may* pull the fatal trigger.

ONLY ONE WAY OUT

Throughout history, each new offensive weapon has called out its appropriate defense. But now the offense leaps centuries ahead in a single bound and the defense lies almost helpless everywhere, unless some technical protection, unknown as Year 2 begins, can be devised.

The situation is extremely dangerous. There is no clear way out except through some sort of international action first to stop the atomic arms race and, before it is too late, to hobble war itself.

Can it be done? Perhaps not, but there is no alternative except atomic chaos.

...so he faces the Atomic Dilemma...

THE NUMBERED statements that follow in somewhat logical pattern are too fateful to be accepted on anybody's say-so. Every reader should test them in the light of his own information and understanding.

The points below sum up the conclusions of the previous article — and these in turn reflect a great mass of thought and discussion among leading scientists, engineers and statesmen close to the problem. To an amazing degree they concur on both facts and conclusions. For authoritative statements of their line of thought, in detail not possible here, the reader should see the recent book, *One World or None.*

THE DILEMMA

Nations must either face the probability of an atomic World War III, which would surely be the most deadly in history . . .

***Or*, the experts propose, yield both atomic weapons and war potential to international authority backed by superior force.**

What the Experts Say

1. In five to ten years any major industrial nation can make enough atom bombs to destroy all the major cities of any other country overnight.

2. This assumes no "secret" information or other help from us.

3. The necessary uranium ores will be at hand.

4. The cost will not be too high.

5. The bombs produced can then be carried thousands of miles by bombers, or by atomically powered guided missiles moving faster than sound.

6. There will probably be no effective military defense against such weapons.

7. Dispersing cities, and putting key industries deep underground, will give some protection if accomplished in time, but at incredible cost in money and human discomfort.

8. In a world atomically armed, nations can probably protect their bomb stocks and rocket launchers from enemy assault.

9. If so, nation A can destroy the cities of any other nation B, after which B's rockets will destroy the cities of A. Shooting first will not win an atomic war.

10. This knowledge may not restrain the trigger finger of a suspicious power.

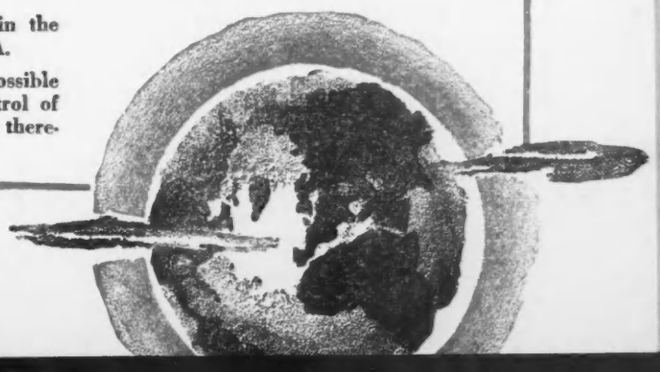
11. Having more and better atomic weapons than the other fellow won't help much if he has enough to destroy us. No use to kill a man twice or rebomb urban ruins.

12. Every nation is vulnerable in the Atomic Age, including the U. S. A.

13. National security will be impossible without (first) international control of atomic arms and (not too long thereafter) international control of all war potential, both backed by superior physical power.

14. If action to this end is long delayed, it may become impossible to halt the atomic arms race already started.

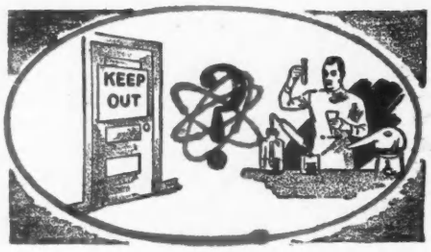
15. At best, the necessary degree of international control, with some real delegation of national sovereignty, will be a revolution in human affairs. It may prove to be humanly unobtainable at this time. If so, men and women everywhere must face the probability of an atomic third world war—by far the most destructive in all history.



In this atomic age no nation can be safe through its own unaided might

...and the Great Debate unfolds

ATOM YEAR 1 has probably been marked by more debate on a single subject than any other twelve months in the world's history. Social, economic and political as well as purely technical issues have been pressing for realistic solution. Let us look at these issues and see where we stand:



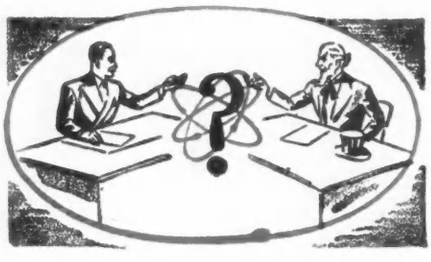
SECRECY VS. FREE SCIENCE

Throughout the first year of the Atomic Age hot debate has raged around "keeping the secret of the bomb." To prevent potential enemies from making atom bombs some have urged a complete blackout of all phases of atomic energy — even of the scientific fundamentals of nuclear physics. Others have sought immediate and complete disclosure of all bomb "secrets," both scientific and technological. These have held that such information cannot be effectively hidden, that secrecy blocks progress and breeds wars.

A year of debate has brought the great mass of vocal opinion to this middle ground: (1) Ease restrictions on the exchange of basic physical knowledge. (2) Release for industry's benefit many of the devices and methods developed for the bomb project. (3) Hold tight to specialized information on atomic bombs and bomb-material production until international safeguards are fully operative.

CIVILIAN VS. MILITARY

Because the atomic bomb is the world's greatest weapon, the armed forces would like to control it. But because atomic energy can also be used for peaceful, beneficial purposes, civilian control seems equally essential. These conflicting viewpoints had their strong proponents before the Congress which finally reached a fairly satisfactory compromise in the Atomic Energy Bill of 1946, setting up a competent civil board with which the armed forces will have continuing liaison. As we go to press, just before Year 2 of the Atomic Age begins, this bill has passed the Senate, but there is still a question how rapidly it will be enacted into law.



PRIVATE VS. PUBLIC

Atomic energy is "too big" and "too hot" to be handled privately. It must be nationalized and internationalized. The questions are *how* and *to what extent.* Fortunately, as the "boxes" on these pages show, there are means that may attain reasonable safety against misuse of the atom, and still do so without public control of many "non-dangerous" applications.

DOMESTIC CONTROL AS PLANNED IN THE ATOMIC ENERGY BILL OF 1946

McMahon Committee Bill contains the following provisions.

Policy. Declares it the policy of the U. S. to develop and utilize atomic energy to improve the public welfare, increase living standards, strengthen competitive enterprise and promote world peace.

Organization. Establishes the Atomic Energy Commission (AEC) of five administrators to direct four divisions on research, production, engineering, and military applications—to work in liaison with three committees from (1) the armed forces, (2) outstanding civilians, and (3) joint Congressional representatives.

Production. AEC to own and operate (under management contracts with industry if deemed desirable) all facilities for the production of fissionable materials, such products to be distributed with their radioactive byproducts under license for private industrial and medical research.

Military Application. AEC to engage in development work and produce atomic bombs as directed by the President, to be delivered only on his order to the Armed Forces.

Industrial Utilization. Permits AEC to conduct research, design and manufacture equipment for atomic-energy utilization, license its use, produce and sell power obtained as a byproduct in the production of fissionable materials. Directs AEC to give widest safe scope to private initiative.

Control of Information. AEC to enforce a ban on the dissemination of restricted data that might be used to injure the U. S. or secure advantage to a foreign nation, yet to provide leeway for ultimately relaxing restrictions as future conditions warrant.

Patents and Inventions. No private patents permitted for production of fissionable materials or their utilization for military weapons, but AEC will justly compensate for such inventions, when made by private citizens. Patents for non-military applications may be purchased or condemned by the AEC only when public interest is affected.

Appropriations. "Such sums as may be necessary and appropriate to carry out the purposes and provisions of the act" *plus* unexpended funds of the Manhattan Engineer District.

while Time runs out

NATIONAL VS. INTERNATIONAL

Born of nationalism, the Atomic Age began when three nations discovered a weapon that today gives them the greatest military power on earth. The prime question is: Shall the atom remain the servant of its conqueror, nationalism?

During Year 1 of the Atomic Age the Truman-Atlee-King declaration, the masterly report of the State Department's atomic consultants, and the U.S. representative on the United Nations Atomic Energy Commission, have all called for international control of atomic energy. Year 2 will start with no such control. This failure to decide and act is in part a natural result of the extreme difficulty of the problem and the obvious dangers of unwise decisions. Nations everywhere face a triple dilemma in this Atomic Year 2: the dangers of nationalism, the dangers of internationalism, the supreme danger of not being able to make any decision in time to meet the atomic bomb threat.

INTERNATIONAL CONTROL AS PROPOSED BY THE U.S. TO U.N. ATOMIC COMMISSION

Baruch statement follows constructive path laid out by Atomic Consultants in "Acheson-Lilienthal Report."

The Plan. The U. S. has proposed that all nations band together to outlaw the use of atomic energy for war and to promote and harness its development for the benefit of mankind. To this end an International Atomic Development Authority would be set up, and to it the U. S. would turn over, at various stages of its organization, all atomic bombs, know-how, raw materials, facilities, and stockpiles of fissionable material. Thus IADA eventually would supersede national authorities on some matters and supplement them on others.

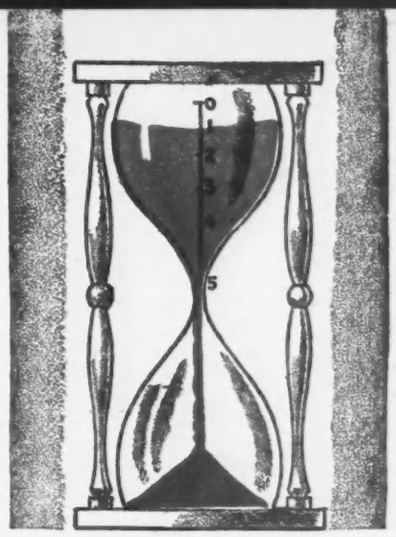
Owner and Operator. IADA would take over from national authorities or private ownership full management and control of all atomic energy matters that afford a possible threat to World security. These include:

1. Raw Materials—Supplies of uranium and thorium to be inventoried, controlled, and developed by IADA.
2. Facilities—IADA to control and operate plants producing fissionable materials and to own and control their products.
3. Research—IADA to undertake research and development on all aspects of atomic energy and to possess exclusive right of research on atomic explosives.

Private Initiative. Will have its chance to push forward the use of atomic energy for peacetime (non-dangerous) purposes. With IADA providing raw materials and carrying out necessary inspection, national and private enterprise may operate "safe" power piles, and produce and use radioactive isotopes for research, clinical and other applications. Radioactive isotopes produced by IADA also can be distributed for peacetime use.

The Mechanics of Safety. No plan is a certain guarantee against future atomic war. This plan should, however, prevent surprise attack with atomic weapons; for IADA is to buttress positive ownership or management controls with wide powers of inspection. Obviously, successful inspection rests on complete freedom of access or egress in any area.

Sanctions. At the heart of the plan lies the problem of penalty for violation — a matter for profound statecraft. To the U.S., one aspect of sanctions appears crystal clear: Here is an area where the veto right now held by the five great Powers must be redefined if it is not to be incompatible with the meaning and purpose of the proposed control.



Leading industrial nations can produce atomic bombs in five years, competent scientists announced after Hiroshima. Already one year of the precious five has been consumed in debate without international action. Soon it may be too late to check the growing momentum of the atomic arms race.

TIMETABLE—ATOM YEAR 1

1. July 16, 1945. World's first atomic bomb detonated in New Mexico.
2. July 26, 1945. President Truman and Prime Minister Churchill issue Potsdam ultimatum threatening Japan's destruction if she continues.
3. August 6, 1945. Atomic bomb dropped on Hiroshima.
4. August 9, 1945. Atomic bomb hits Nagasaki.
5. August 11, 1945. Army releases Smyth Report on "Atomic Energy for Military Purposes."
6. August 14, 1945. Japan accepts terms of Potsdam declaration.
7. November 15, 1945. Truman-Atlee-King issue declaration of intention and procedures looking toward international control of atomic energy by United Nations.
8. March 28, 1946. State Department issues Acheson-Lilienthal Report on the "International Control of Atomic Energy."
9. April 12, 1946. Manhattan Engineer District announces program for experimental development of atomic power.
10. June 1, 1946. "Atomic Energy Bill of 1946" passes Senate unanimously, is referred to House of Representatives.
11. June 14, 1946. First meeting of United Nations Atomic Energy Commission (Bernard Baruch as American member). Manhattan District announces availability of radioactive isotopes for research use.
12. July 1946. Joint Army-Navy tests of atomic bombs at Bikini.

...but if Man Masters Atom...

IF MUTUAL DESTRUCTION by the atomic bomb can be avoided, the first century of the atomic age will bring immense advances in scientific knowledge, health and living standards. Already many prospective benefits can be outlined, but those we can neither foresee nor suspect may be even more important.

This prediction is grounded in scientific experience; the most fundamental discoveries have always been the most fruitful. The study of molecules gave us chemistry. Faraday's experiments with electricity and magnetism are the foundation stones of the great electrical industry. Can one expect any less from an understanding of the heart of every atom?

BENEFITS

Atom-splitting benefits clearly visible today fall mainly in three classes: (1) heat and power applications of the uranium piles; (2) general industrial applications of equipment and methods originally developed for the bomb project; (3) chemical, biological and medical uses of the "tagged atoms" (radioactive isotopes) now abundantly available from pile operation.

It is now evident that the energy yield of the U235 in an atomic pile can be multiplied many times by returning to (or leaving in) the pile the plutonium and possibly the U233 produced respectively from the U238 and the thorium in the pile. This is an indirect way to "burn" inexpensive U238 and thorium, and thus greatly extend the supply and reduce the cost of atomic fuels.

POWER APPLICATIONS

Although present piles run at low temperatures, it is certain that temperatures high enough for the efficient operation of steam and gas turbines will be attained. Already an experimental atomic power plant has been ordered. Atomic power for certain remote installations (say, for heating Arctic airports) may not be far off.

In five or ten years uranium piles will be driving a few experimental ships and submarines. In 20 or 30 years uranium may begin to compete widely with coal as a fuel for suitably situated large central heating and power plants. The 50-ton minimum weight of shielding rules out nuclear power for automobiles and small piloted planes.

SPECIAL USES

Some day ultra-high temperatures from splitting atoms will be used for special industrial operations on metals and other materials. Even the dread atomic bomb might easily serve peaceful ends — blasting lakes in deserts, changing the course of rivers, leveling mountains.

INDUSTRIAL BYPRODUCTS

The special industrial equipment and methods developed for the bomb project will find hundreds of important uses — mostly for purposes unrelated to atomic energy. These developments include pumps with neither seals nor leaks, leak detectors of amazing sensitivity, ultratight welding, a portable mass spectograph for quick and automatic gas analysis, new ways of handling corrosive and poisonous materials, new diffusion barriers for the separation of gases and of petroleum products.

TAGGED ATOMS

Yet more important than any of these, in the long run, will be the hundreds of radioactive isotopes now available as by-products of pile operation. Chemically indistinguishable from the ordinary forms of the elements, these isotopes serve as tagged atoms or "spies" if mixed with common stable atoms of the same species. They "fly with the flock," and can later be identified as surely as banded birds. With these amazing tools of research, the course of any element or compound may be traced through the bodies of men, animals and plants. Similarly, tagged atoms may be used in studying the course of many kinds of industrial and chemical operations.

BIOLOGY AND MEDICINE

A suspected hyperthyroid condition can be diagnosed by feeding the patient a minute measured amount of radioactive iodine. The click of a "Geiger" counter placed on the patient's neck will tell (1) what percentage of the swallowed iodine concentrates in the thyroid cells and (2) how rapidly that concentration is accomplished — giving a definite indication of the state of the gland.

In similar fashion the radioactive isotopes of hydrogen, oxygen and carbon will trace out the intricate transformations of carbohydrates and proteins in the human body. Radioactive phosphorus will explore the bones. Radioactive iron will show how and where blood cells are formed. Radioactive sodium will time the circulation of blood.

USES IN INDUSTRY

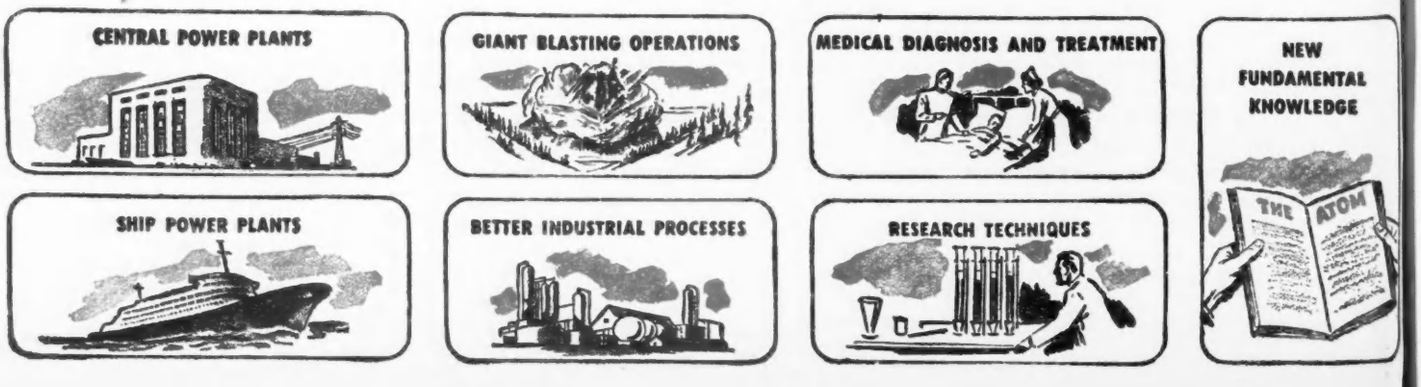
In chemistry the radioactive isotopes will speed the understanding of metallurgical and organic reactions. In industry they will measure flow, detect leaks, and do other useful work.

Meanwhile the uranium piles will be manufacturing certain radioactive isotopes that can serve as cheap but effective substitutes for high-cost medical radium.

KNOWLEDGE COMES FIRST

It is already clear that the chief benefits of atom splitting will come first as new scientific knowledge rather than as new engines and gadgets. But in the long run man's new understanding of the inner atom will enrich the whole range of human activity. This has always been the case with less fundamental discoveries in science. It can hardly be less with this most fundamental discovery.

ATOM SPLITTING WILL SERVE MAN IN:



Battery of 400-needle circular hosiery machines complements other hosiery machines in large Southern mill.

Mill Diversifies with 400-NEEDLE Machines

By O. B. GRAHAM

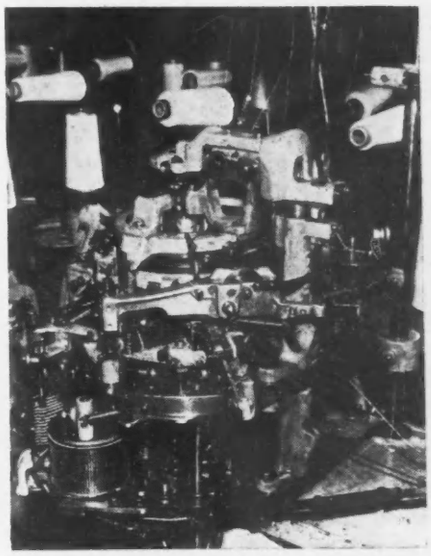
HIGHLIGHTS: *Large southern mill adds new seamless model and rebuilds low-needle machines to 400-needle capacity—Pre-shrunk nylon welts produced with an elasticity of 11½ in.—Knitters operate 30 to 36 machines—Fixers training essential to successful operation.*

DIVERSIFICATION of nylon-hosiery production will offer few problems to the production man, if the example of a large southern mill is a criterion. Following the urge to produce and sell a complete line of ladies' hosiery, the mill has added a complement of 400-needle circular machines to the large number of full-fashioned machines already in operation. The new seamless production will be smaller than the full-fashioned production, but it will permit the mill to produce varied ladies' hosiery.

New automatic machines were purchased by the company in order to obtain styling advantages from the new heel and gusset-toe constructions; and old circular machines were rebuilt from low-needle capacity to 400-needle capacity in order to effect immediate production of hose.

Thus, for the present the mill has production; and for the future it has styling facility and versatility which will be useful if the current experiments into finer gage and denier are successful.

The machinery additions and the expectation of changing techniques in seamless production and styling were challenges to the production personnel which was trained originally on full-fashioned procedures. Generally speaking, there were few differences between the full-fashioned and seamless methods



Mills report up to 50 machines assigned to one fixer but 30 to 40 are assigned in the mill described.

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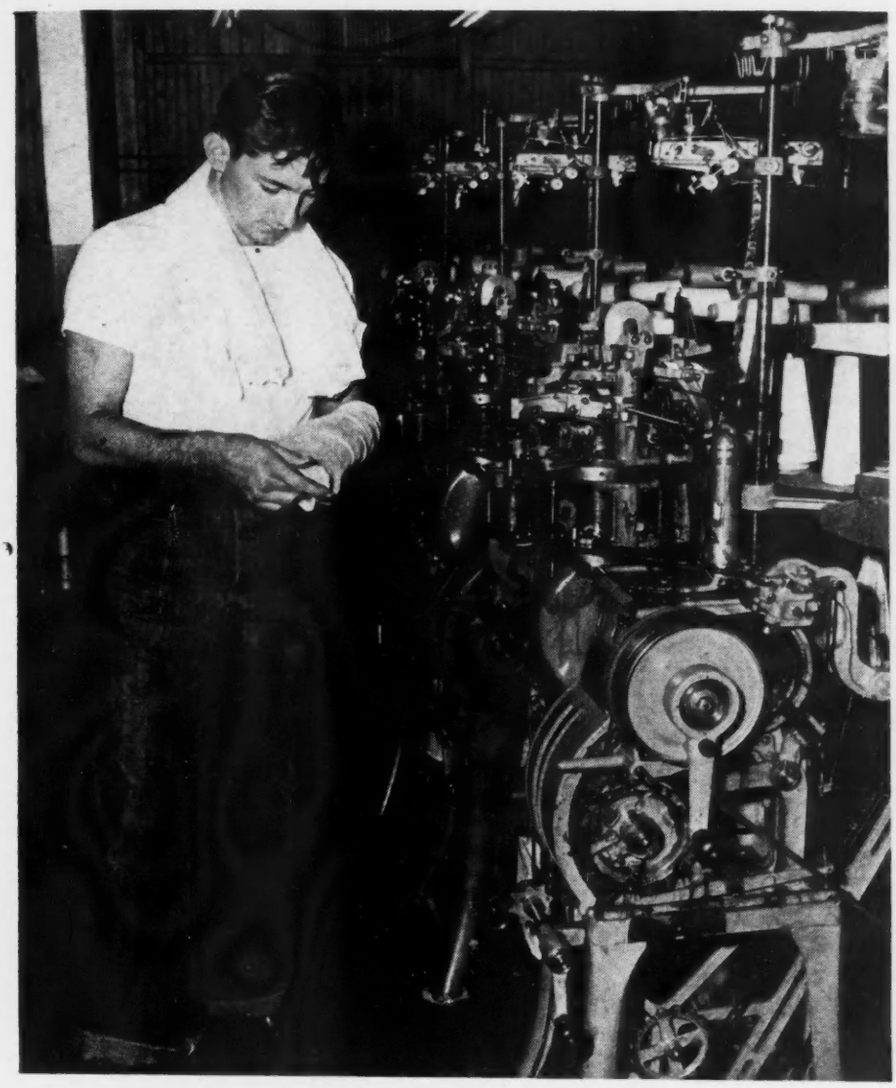
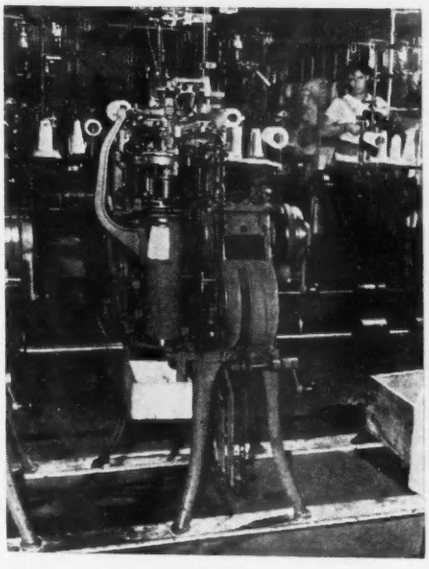


Yarn used in the welt being examined here is now preshrunk by throwster to give better elasticity in the finished hose. Knitters operate 30 to 36 machines.



Old machines can be reneedled to 400 but do not knit newest heel and gusset toe as do latest machines.

of manufacture; but those differences concerned the all-important processes of pre-shrinking and knitting.

PRE-SHRUNK WELTS. Prior to the war, some mills knitted welt yarns loosely and depended upon shrinkage at the preboarding process to contract the yarn to the proper stitch. Under the loose-knit system, it was difficult to control the stitch formation of welt yarn; and many variations occurred. With variable stitch-formation, it was impossible to obtain the proper amount of elasticity in the finished welt regularly; and quality of finished hose suffered as a result of lack of uniformity.

At the present time, pre-shrinking is done by the throwster in boiling water either prior to sizing or prior to twisting. The mill believes that pre-shrinking eliminates the variation in welt elasticity which characterized the older methods. A satisfactory elasticity of about 11½ in. is produced by the mill on 7-turn, 70-den. yarn.

However, some trouble has been encountered with "watermarked" welts under the pre-shrunk system. Whether this condition is a result of too much or too little shrinkage, or of some finishing fault, has not yet been determined. The mill continues to study the condition, and reports it only as an indication of the fact that any production change in nylon-hosiery manufacture is likely to encounter some temporary obstacle in finishing.

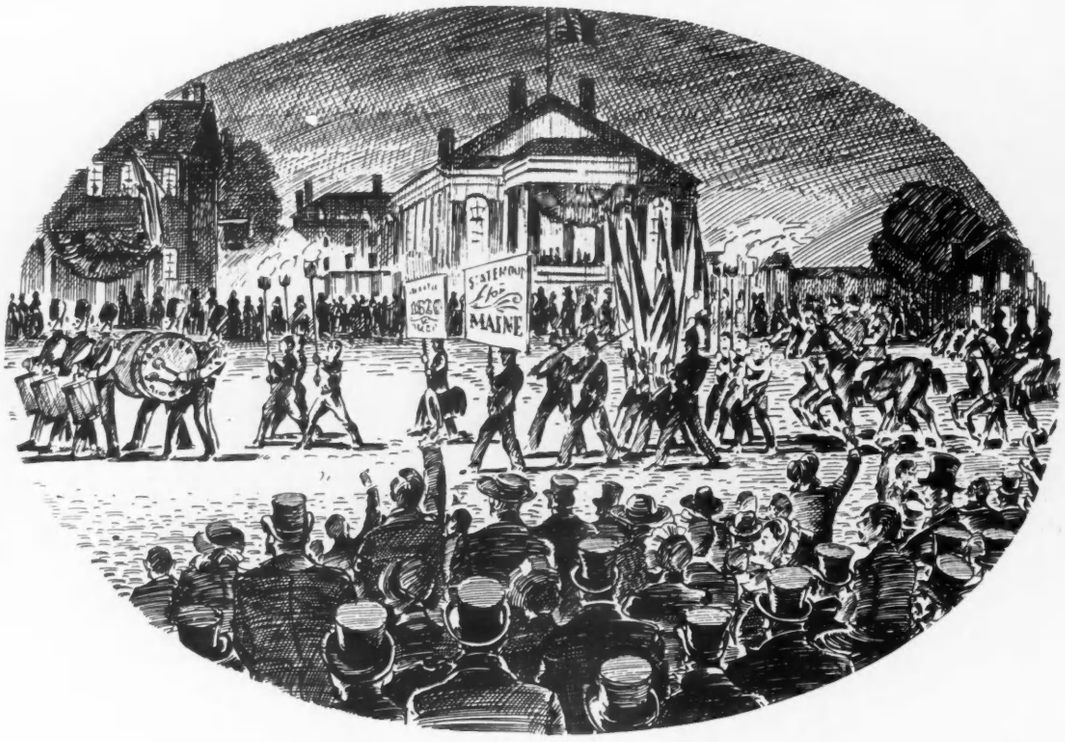
SEAMLESS KNITTING. Because wet yarns knit with some difficulty on circular machines, the mill dry-knits seamless hose. Needle rust encountered during wet-knit experiments was also a factor in the change.

The dry-knit procedure, however, may result in an increase of sub-standard hose during knitting and subsequent processes. The mill believes that a loss in quality was due to improper air-conditioning controls. Such controls have been successful in improving the quality of full-fashioned nylon hosiery; and the production executives anticipate a similar improvement in seamless-nylon quality when air conditioning is installed.

Certain advantages were pointed out in the operation of the seamless machines. For one thing, operators could be trained easily to handle the multiple-machine operation; and the use of new operators permitted more flexibility in job assignments and some improvement in costs. Knitters operate 30 to 36 machines; and on a dozen-pair basis the mill estimated that seamless hose were about $1.00 cheaper in manufacturing cost than full-fashioned hose. There was also no traditional job-assignment conception in the minds of the new operators; and the training for multiple machines was considered advantageous and simple.

The maintenance of seamless equipment, however, requires considerable attention to the details of the machine's many parts. Fixer-assignments are low, around 30 to 40 machines per man; although other mills report about 50 machines per fixer. In any case, the problem of fixer maintenance is a constant one, and considerable attention is given both to the training of these men and to the supervision of their upkeep of machines.

The mill believes that fixer training should include complete schedules for maintenance of the machines, particularly if the machines are new. Maintenance schedules, followed up by supervisory check-tests and by a good stock-control and replacement-part system, will reduce maintenance trouble, the mill management believes.



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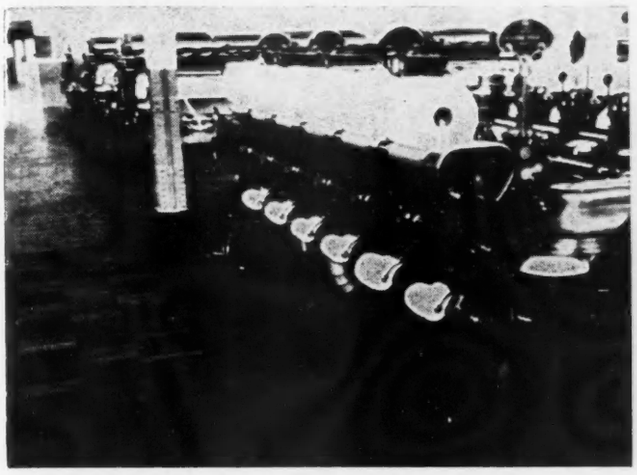
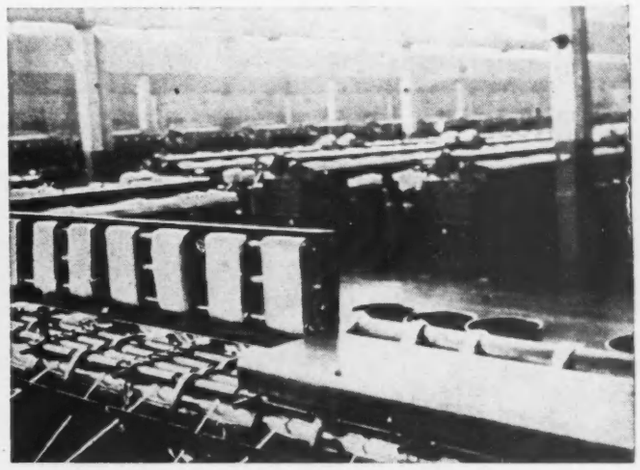


Note polished inlaid floor in the combing department of this Japanese mill.



Three processes of 4-roll drawing are used for both combed and carded work. Note cleanliness and atomizer mounted on post.

JAPANESE MILLS Are Well Equipped and Well Run

HIGHLIGHTS: *Spindle speeds 11,000 to 13,000 r.p.m. achieved by specially designed ring and spindle—Demagnetizing rings combats wear—Long draft on 90% of spinning frames—Standardization and interchangeability of parts from several builders.*

By FRANK E. ROWE, JR.

JAPANESE MILLS visited were representative of the industry as now existing and as a whole were in good condition. The machinery layouts are in some cases the best the writer has ever seen.

Paper given before American Association of Textile Technologists, New York.

The textile machine shops are very versatile in their equipment and layout, and all agreed that they would make "any kind of machine of which they might be given a sample."

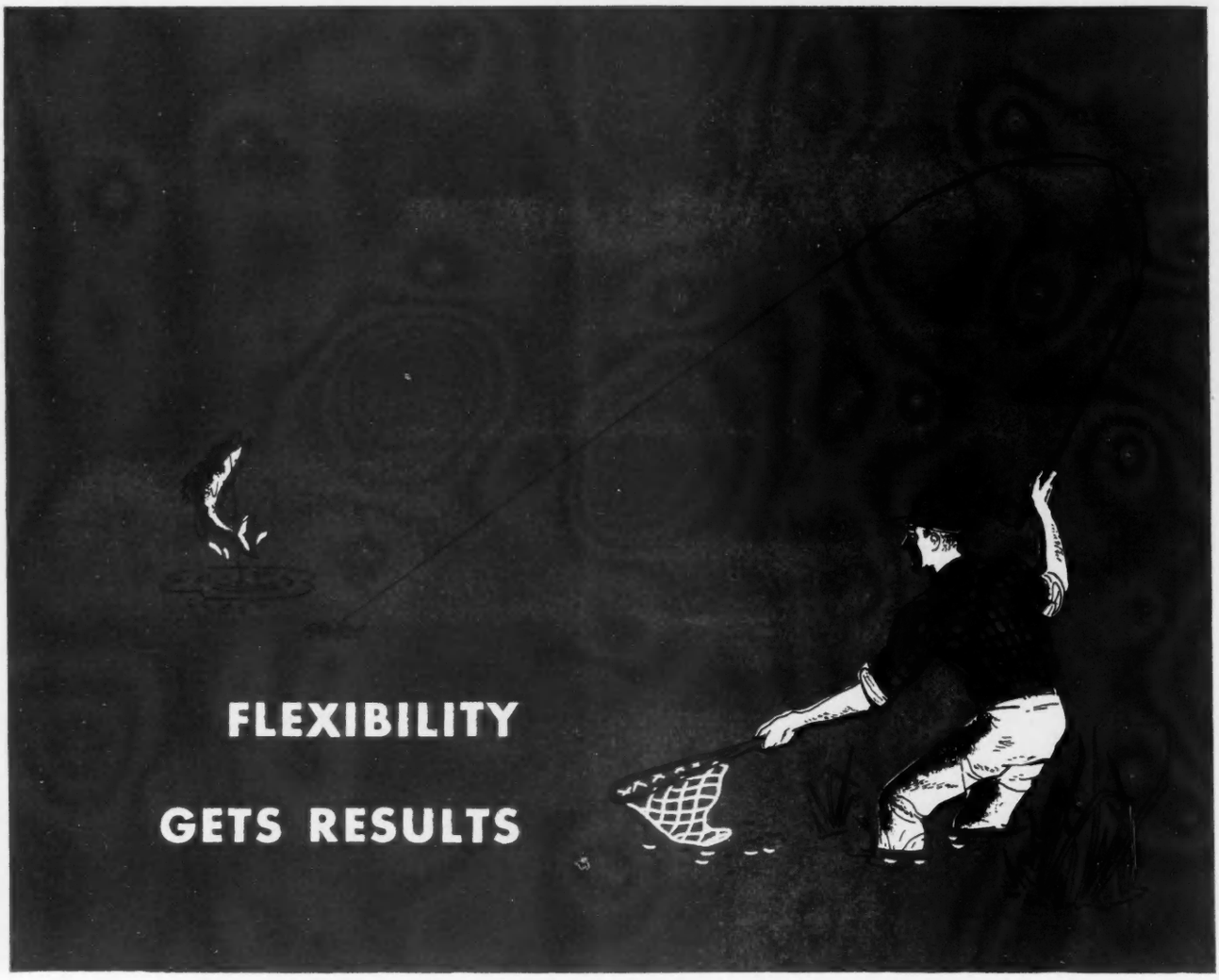
For years, Japanese methods of mixing of various lengths and kinds of cottons have been a source of wonderment to many mill men, not only in this country but in England as well.

Actually, the common method used, which is comparatively simple and very effective, is as follows:

The extension apron feeding the primary bale breaker is commonly 24 to 36 ft. long and is divided into 4- to 6-ft. bays or sections. Each section is fed a weighed amount of a particular staple or grade by an operator who not only does the feeding but also the weighing of the stock so fed. This results in a very uniform sandwich mix being

This card room, damaged by the war, is roofless but machinery is relatively unharmed.

Bombing made shambles of many Japanese mills. Much debris came from saw-tooth roofs.



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Whether you are working with cottons, rayons or mixed goods, you get the same superb results. Diastafor is always kind to your fabrics—gives a good bottom without impairment of tensile strength.

Give it a trial and you will see why Diastafor has been the leader for 38 years—why bleachers and dyers look to Diastafor for quick and economical operation. If you have a de-sizing problem, our technical and sales staffs will be glad to assist you. For further information, write to Standard Brands Incorporated, *Diastafor Division,* 595 Madison Avenue, New York 22, New York.

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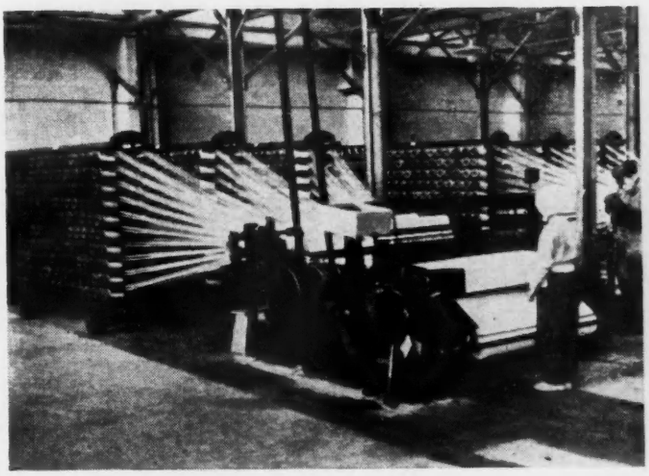
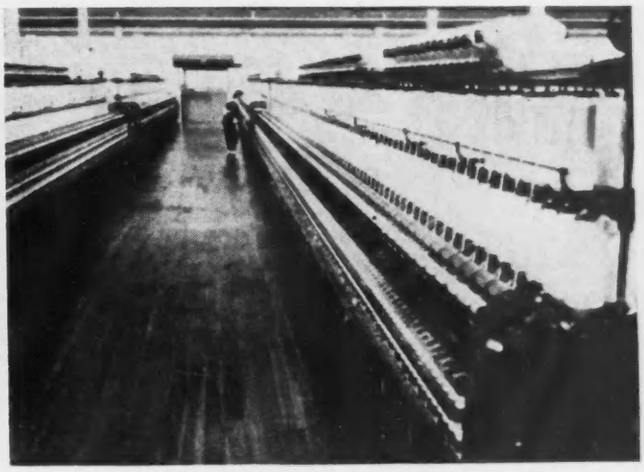


Coarse yarn is being woven from creels rather than loom beams. Creels are mounted on rollers for quick changing.



Currently, many Japanese mills are operating spinning spindles at reduced speeds because of shortage of cotton.

placed on the apron and delivered to the hopper of the primary bale breaker. To make this clearer, we can assume a 50/50 mixture of $\frac{5}{8}$-in. Indian and $\frac{7}{8}$-in. American is to be used and that six girls are to do the feeding on a 36-ft. apron divided into six sections of 6 ft. each.

SANDWICH BLEND. The girl at the outer end places, say, 50 lb. of $\frac{7}{8}$-in. American on her 6-ft. section. This section advances, and the second girl places 50 lb. of $\frac{5}{8}$-in. Indian on top of the $\frac{7}{8}$-in. American. Next, the third girl places 50 lb. of $\frac{7}{8}$-in. American on top of the previously placed layers of American and Indian. The fourth, fifth, and sixth girls put their 50 lb. of Indian, American, and Indian in layers on top of those placed on the apron by the three preceding girls. This makes up a batch or sandwich mix of six layers of 50 lb. each over a length of 6 ft., or 50 lb. per running foot of the apron.

The stock, in a fairly loose state, is delivered to the hopper of the bale breaker which delivers to a vertical opener, delivering by means of a screen section to the second bale breaker, which delivers to a hopper feeder (either single or tandem apron type) which feeds the apron of a lattice opener, which in turn delivers to a second vertical opener delivering to a single- or double-beater exhaust opener on which the breaker laps are formed. The breaker laps weigh 18 to 20 oz. per yd., and the exhaust openers produce from 700 to 800 lb. per hr.

Each line of opening takes care of two lines of picking; and the laps from the exhaust openers are fed to the pickers, either intermediates or finishers, alternately, to further aid in mixing.

In some cases when both intermediates and finishers are used, the laps from the intermediates are carefully mixed on the finisher aprons. The finisher laps weigh 15 oz. per yd., and the finishers produce from 300 to 350 lb. per hour.

The same general procedure is carried out on any mixes run, although the Japanese do use considerably different arrangements of their opening machines.

The possible improvement in uniformity of mix obtained by the Japanese method as against the American

SPINNING MACHINERY LAYOUT

DAI NIPPON COTTON MILLS

Name of Machines	Coarse Counts	Medium Counts	Fine Counts
Hopper Bale Breaker ..... 36 in. wide Crighton Opener Hopper Bale Breaker ..... 36 in. wide Hopper Feeder ..... 36 in. wide Lattice Feeder ..... 36 in. wide Crighton Opener Without Delivery Part	Arranged in one-process system for all counts.		
Exhaust Opener	with	with	with
Intermediate Scutcher	with (omitted when double Exhaust opener is used.)	without	without
Finishing Scutcher	with	with	with
Carding Engine, Machine Size	45-in. Cyl. 27-in. Dof. 10-in. Can	40-in. Cyl. 27-in. Dof. 10-in. Can	40-in. Cyl. 27-in. Dof. 10-in. Can
Counts of Fillets Cylinder	90 or 100	110	110 to 130
Doffer	100	110	120 to 140
Top	100	110	120 to 140
Drawing Frame ..... Staff	18⅛ in. or 20⅛ in.	20⅛ in.	20⅛ in.
Can	10 in.	10 in.	10 in.
Passage	3	3	3
Lap Machines and Comber (before drawing frame)	without	without	with
Slubbing Frame ..... Staff	20½ in.	20½ in.	20½ in.
Lift	10 in.	10 in.	10 in.
Intermediate Frame ..... Staff	19¾ in.	19¾ in.	19¾ in.
Lift	10 in.	10 in.	10 in.
"Simplex Fly Frame" with 4 lines of rollers is used instead of slubbing and intermediate frame; drawing frame sliver is directly supplied to ring frame after it has once passed this frame.	Staff 20½ in. Can 10 in. Lift 10 in.	19¾ in. 10 in. 10 in.	19¾ in. 10 in. 10 in.
Ring Spinning Frame ..... Gage	2⅝ in.	2½ in.	2½ in. or 2⅝ in.
with double aprons, Lift tape drive arrangement.	6 in.	6 in.	6 in.

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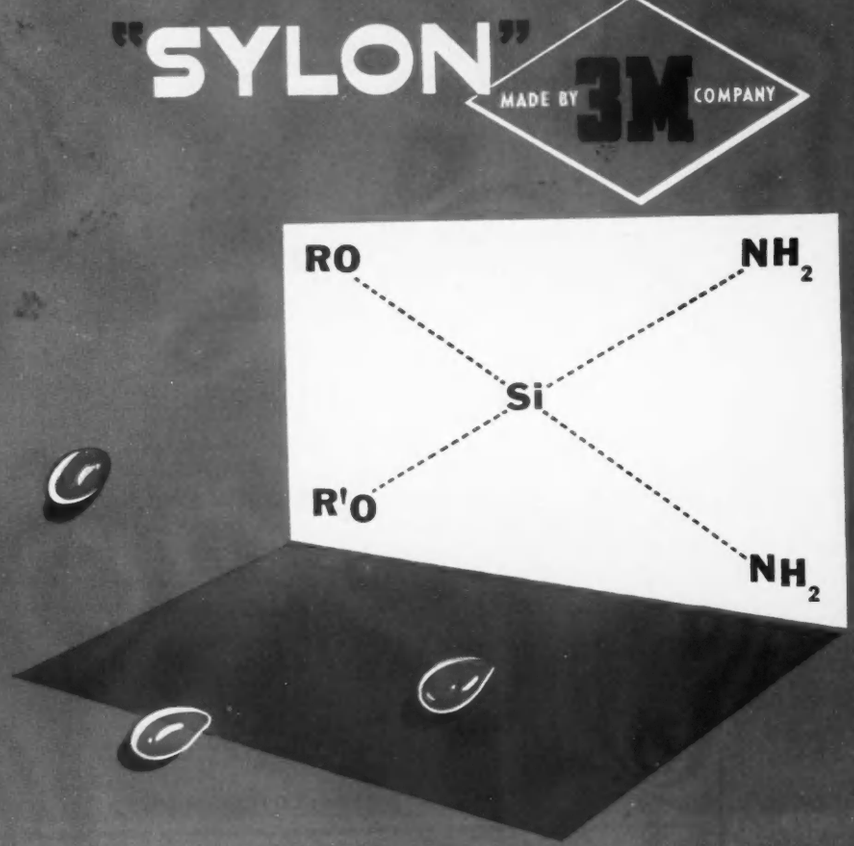

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method of using mixing feeders could hardly be justified in the U. S. A., due to the tremendous added labor cost. The reason for going into the foregoing is to clear up any mysticism that may exist as to the Japanese mixing methods.

CARDS. The continuous strippers used in Japan are located below the lickerin rather than above it. This results in the stripper having less work to do, as it only has to lift the cotton which has not been removed from the cylinder by the doffer. With the American layout, in which the stripper is located above the lickerin, the stripper has to lift this cotton which has passed the doffer plus the cotton which the cylinder has picked up from the lickerin. This results in a much heavier load on the stripper wire.

The strippers are approximately 9¼ in. in diameter and have two wings, on each of which are mounted a strip of filet being wired with straight-tooth wire, set 4 points per inch lengthwise of the stripper and 8 points in ⅛ in. crosswire of the wire. The wires are 0.0175 in. in diameter and project approximately ⅛ in. above the rubber face of the cotton and rubber foundation. The wires are slightly pointed and are very hard. This filet is attached to the stripper wings in the same manner that flats are clothed; that is, with clamping strips running the length of the filet.

The strippers run at speeds giving the points of the wire a 15 to 18% greater surface speed than the wire on the cylinder. Because of the rather full coverage of the cylinder by the wires on the stripper, no traverse motion is required. The strippers are driven by flat belts or V-belts from the lickerins. There is an adjustable binder pulley used on this drive, and the mills reported the drive very satisfactory.

The strippers were observed in operation on cottons ranging from mixtures of short Indians and Chinas through the better Egyptians, and the work produced by the cards was excellent in all cases. The mills reported a life of 4 to 5 yr. for the stripper wire, based on 312 days of 17 hr. each per year.

After much experimentation, the Japanese card manufacturers have largely adopted a single mote knife in preference to the usual double-knife set-up as used in this country.

The single knife is mounted in fully adjustable brackets, which allow for wide differences in vertical, horizontal, and angular settings.

The performance of this single-knife set-up was observed on a wide range of mixes, staples, and rates of production; and in all cases the droppings showed a very high percentage of heavy impurities and a corresponding low percentage of good staple.

The cans used are 9 or 10 in. in diameter and 36 in. long. The card productions are in line with American practices as are the cylinder, lickerin, and flat speeds.

DRAWING. In practically all instances, three processes of four-roll drawing are used. This applies to combed as well as carded work.

In all instances, the top rolls are covered with chrome-tanned calf over all-wool cloth and are very well varnished.

Front-roll speeds as a whole are set up for 110 surface ft. per min. on carded work and 100 ft. on combed work.

The importance of the drawing operation is fully recognized by the Japanese, and due attention is given the relation of roll diameters and roller settings to the staples being run.

As in the case of the cards, the cans used on the drawing and combers are either 9 or 10 in. in diameter by 36 in. long. The 10-in. cans hold from 5½ to 7 lb., depending on the process; and the 9-in. cans correspondingly less. The use of 12-in. cans has been given very little consideration in the past, but is under investigation by both the machinists and the mills at present.

ROVING. For yarns up to and including 60s, both carded and combed, it is customary to use single roving made on the "Simplex" frame.

This frame has four lines of rollers and uses a break-up of drafts quite similar to that used on our 4-roll drawing frames. The maximum drafts on these frames are usually about 8.5, and the drawing slivers are made light enough to hold the roving draft to this limit.

For yarns up to 16s, the hank roving is in the neighborhood of 0.90 hank; 20s to 26s—1.08 hank; 30s to 40s—1.70 hank; and 50s to 60s—2.08 hank.

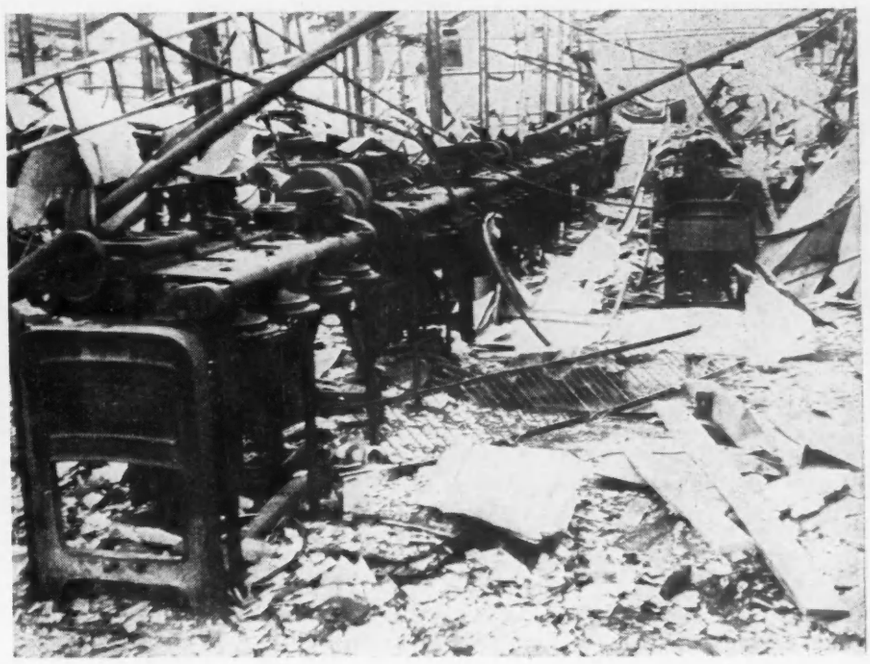
These single-process frames are largely built with 10-in. traverse, 5- or 5½-in. diameter bobbins, and on chassis having 10¼-in. space. The lengths run from 72 to 84 spindles per frame.

For 70s and finer, double roving is largely used; and this is made as a second process on frames having three lines of drafting rolls. These frames are conventional fly frames having 8-in. traverse, 3½- to 3¾-in. diameter bobbins, and 6-in. gage.

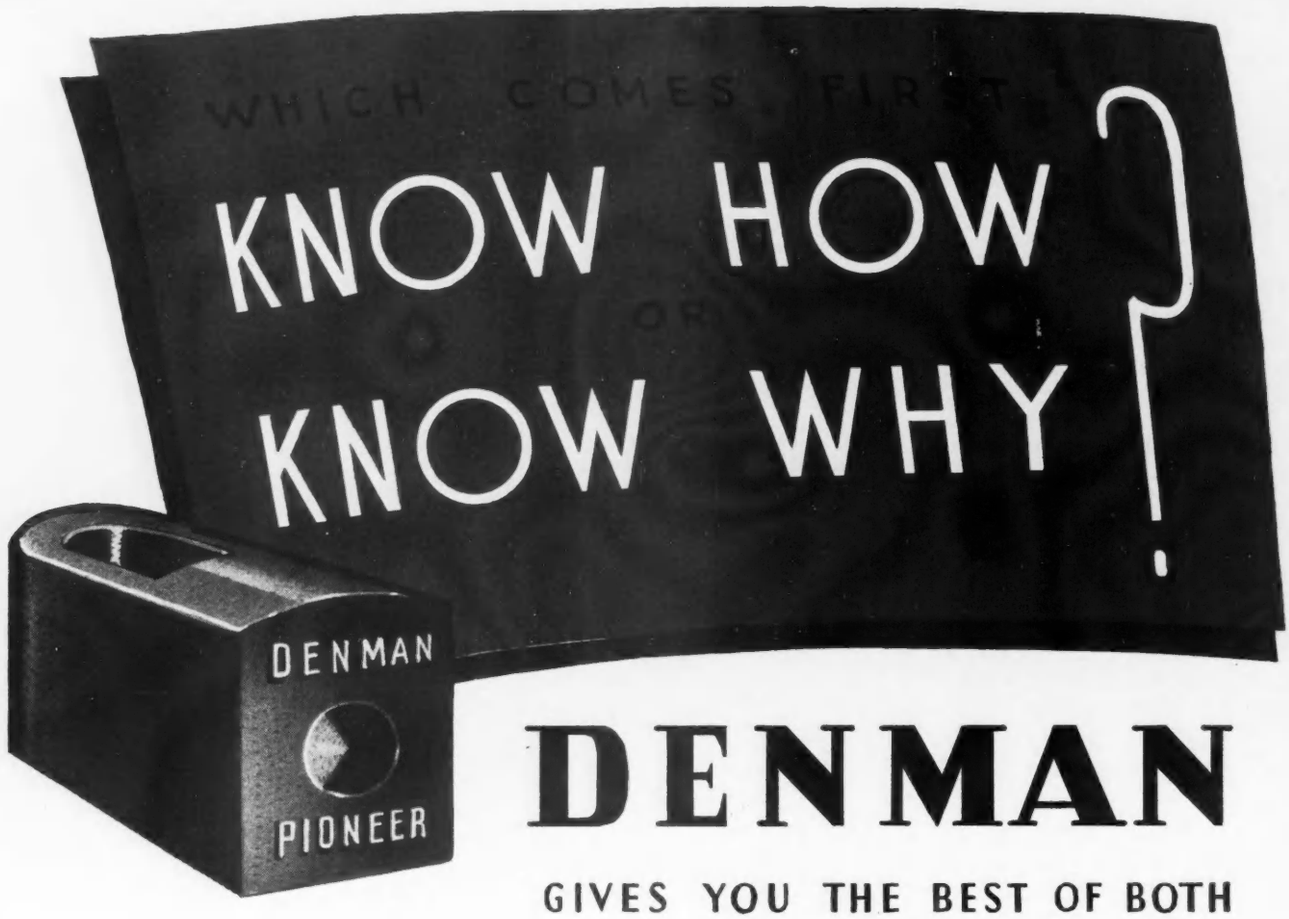
Spindle speeds are in line with American practice, but the twists are slightly under.

SPINNING. Japanese spinning frames are all of narrow-gage construction, as compared to American practice. The usual gages are 2⅜ in., 2½ in. and 2⅝ in.

(Continued on page 218)



Scrapping to supply its steel industry and bomb damage reduced Japanese cotton spindles to 2,150,000, of which 1,115,000 were operable. Prewar high was 12,000,000.



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500 Weaves Are Standard for RAYON FABRICS

HIGHLIGHTS: *Only 20 to 30 general classes account for most broad-woven yardage—Considerable variation within types—Gray widths range from 35 in. to 48 in.—Flat, voile, crepe, and combination yarns used in numerous arrangements.*

By RENE BOUVET, *American Viscose Corp.*

IN ITS EARLY BEGINNING, rayon was looked upon with great interest by textile firms engaged in the manufacturing of cotton goods. Silk houses entertained serious misgivings and were openly doubtful as to the future of this new comer, with the result that a great many of the general practices and terminologies applied to cotton were inherited by rayon. Other names came from the silk division of the textile industry, and now strictly rayon terms are being widely used.

It is probably true that over 500 rayon fabrics have become trade-accepted, have received such recognition as to their value and utility that they are considered as standards. In fact, they are so firmly established that no reputable manufacturer would consider fabricating them without being guided by the ends and picks they require.

In the accompanying tabulation are given the principal variations within the main classes. Of course, there are many other variations possible, some of which have been, or are being, made in limited quantities. Of the first dozen fabrics listed, most are made of all-viscose rayon, although some of the flat yarns could be acetate. All crepe or voile yarns are viscose rayon except those for ninons (acetate) and some of those for triple-sheer fabrics (cupra).

Gray cloth widths are given, not reed widths or finished widths. Again, there are many variations in gray widths; however, those given can be considered standard.

The only fabrics listed are broad-woven ones composed 100% of continuous-filament rayon.

TAFFETAS

Flat Yarn—Widths 35 in. to 43½ in.

Warp (Sley)			Filling (Picks)	
150	100	← Den. →	150	100
68			44-46	
72			36-64	
80			36-56	
84			56-60-68	
92			40	68
96			48	
110			48	
112			52	
	92		64-76	60-64
	140		64	60

TWILLS

Flat Yarn—Widths 35 in. to 40½ in.

Warp (Sley)		Filling (Picks)
150	← Den. →	150
72		52
80		64
84		40-44-64
88		44-64
92		42-64
96		64-68
104		76
112		68-72
120		68-72
128		80
140		68-72
148		72

POPLINS

Flat yarn—Widths 35 in. to 40 in.

Warp (Sley)					Filling (Picks)			
150	125	100	75	← Den. →	300	250	200	150
	84						64	
88							40	
88					40			
92							40	
92					40			
		140						56-60
			158			50		

CANTON CREPES

Flat warp, S & Z crepe filling—Width about 46 in.

Warp (Sley)			Filling (Picks)	
150	100	← Den. →	200	150
96			46	48-56
	100			52
	120		48	52-56
	124			52-56

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BANCROFT INSTALLS A SECOND DU PONT CONTINUOUS PEROXIDE BLEACHING SYSTEM!

New unit will increase continuous bleaching capacity to over 2 million yards per week

SOME OF THE MOST DIFFICULT processing work in the country is done by Joseph Bancroft & Sons, producers of the famous "Basco," "Staze-Rite," "Ban-Flame" and "Everglaze" finishes. Their bleaching must not only be careful, uniform, high-quality. It must also be rapid. That's why, two years ago, Bancroft installed a Du Pont Continuous Peroxide Bleaching System. Daily, since then, thousands of yards of goods of all classes have been put through . . . poplins, print cloths, broadcloths, twills. A considerable portion of the bleached goods is vat-dyed. The bleach is fast, continuous, uniform, and the number of seconds is greatly reduced. All in all, the record of this Du Pont system has been so satisfactory that when Bancroft found they needed added capacity, they specified a *second Du Pont Continuous Bleaching unit just like the first.* When this unit is in operation, Bancroft's continuous bleaching capacity will be increased to *over two million yards per week!*

* * *

We will be glad to work with you in studying your plant requirements to determine how a Du Pont Continuous Peroxide Bleaching System can benefit you. Du Pont Technical Service Men will help you survey your plant, select your equipment and assist in starting up your process. For more details, just write E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Del.

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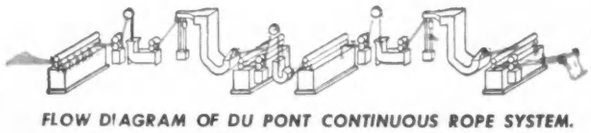
Du Pont Continuous Peroxide Bleaching is a basic system comprising a flexible arrangement of equipment which can be adapted to meet any production requirements. This versatility is typical of both the rope and open-width systems.

DU PONT PEROXIDES



FLOW DIAGRAM OF DU PONT CONTINUOUS ROPE SYSTEM.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

DU PONT

FLAT CREPES

Flat warp, S & Z crepe filling—Widths 41 in. to 45 in.

Warp (Sley)				Filling (Picks)	
150	100	75	← Den. →	100	75
80				40–48	
94				42–56	
96				42–56	
	114			64–70	
	124			66–68	
	135			72	
		150			76

FRENCH CREPES

Flat warp, Voile-twist filling—Widths 39 to 43½

Warp (Sley)				Filling (Picks)		
150	100	75	← Den. →	150	100	75
92					50–69	
	104			72		
	110				60–64	
	116				68–72	
	116					76
		116				80
		150				94

ROUGH CREPES

Flat warp, S & Z crepe filling—Widths 46 in. to 48 in.

Warp (Sley)			Filling (Picks)	
150	100	← Den. →	200	150
96			46–48	48–52
	96			52
	100			52
	112			52
	120			52–56
	124			52–56

CHIFFONS

S & Z crepe (sometimes one twist only) warp and filling—Widths 46 in. and 47 in.

Warp (Sley)		Filling (Picks)
50	← Den. →	50
60		60
70		70
80		80

MARQUISETTES

Voile-twist yarn—Width 38 in.

Warp (Picks)			Filling (Picks)	
150	75	← Den. →	150	75
28			24	
38			24	
44			30	
44			32	
	72			48

SAND WEAVES

Flat or crepe warp, S & Z crepe filling—Widths 45 in. to 50 in.

Warp (Sley)			Filling (Picks)	
100 (Flat)	100 (Crepe)	← Den. →	150	100
112				60
	112			72
	126			64–68
	130		64	64
	135			60–64–68–72

GEORGETTES

S & Z crepe warp and filling—Widths 43 in. to 46 in.

Warp (Sley)		Filling (Picks)
75	← Den. →	75
60		48–52–60
64		64
70		70
80		72–76–80

TRIPLE SHEERS

S & Z crepe warp and filling (some filling zero twist)—Widths 46 in. and 47 in.

Warp (Sley)			Filling (Picks)		
100	75	← Den. →	100	75	75 (Zero twist)
90			68		
	100			68	
	104				72

PLAIN SATINS

Flat yarn—Width 39 in.

Warp (Sley)				Filling (Picks)		
150	100	75	← Den. →	150	100	75
110				52–56–60		
	140			64–68–72		
140					72	
160				72		
	180				60	
180				72		
	200				60–64	
		200				88
	220				64	
	225				60–64–68	
		300				80

TAFFETAS (acetate)

Flat yarn—Widths 39 in. to 41½ in.

Warp (Sley)					Filling (Picks)				
150	120	100	75	← Den. →	300	150	120	100	75
84						60–68			60
		100	104					76	
110						48			
112						52			
	120					56			
			150			64–68			
			180				68		
			180		56	60			
		200	200				64	64	

NINONS (acetate)

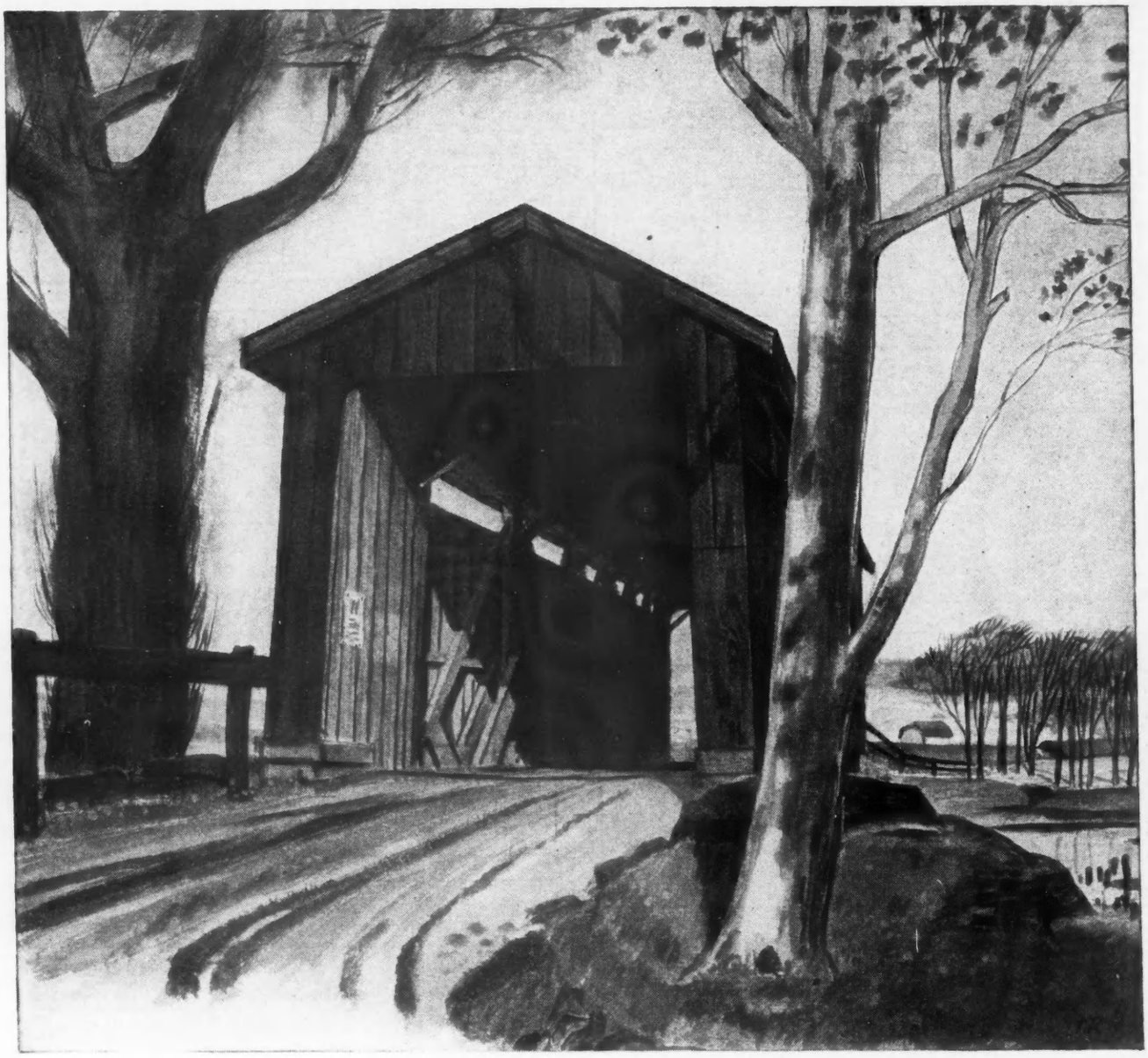
Voile-twist yarn—Widths 35½ in. to 38 in.

Warp (Sley)		Filling (Picks)
75	← Den. →	75
64		64
80		80

SHARKSKINS (acetate)

Flat yarn—Widths 40½ in. to 41½ in.

Warp (Sley)			Filling (Picks)	
300	150	← Den. →	450	300
52				52
60				46
84				50
	112			50
	120		44	
	176			36



Why did old bridges carry umbrellas?

The covered bridges that once dotted the highways of the country weren't built to protect the traveler . . . but the bridge itself. By shielding the trusses, decking and stringers from moisture—which permits the fungus growth that causes decay—the life of the bridge was extended.

Today there is the same necessity of protecting not only bridges, but all sorts of structures from the accelerated decay produced by moist conditions: building frames, roofs and walls in humid atmospheres; timbers and flooring laid at grade or subgrade; piling and piers.

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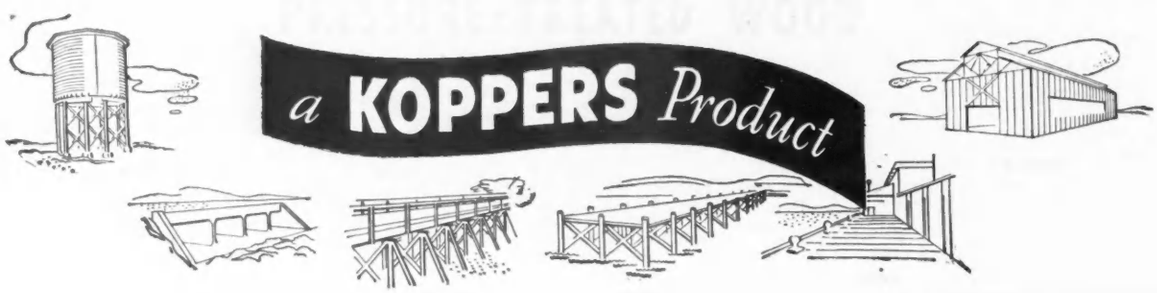


500 Rayon Weaves (concluded)

TWILL LININGS (acetate)

Flat yarn—Widths 37 in. to 41 in.

Warp (Sley)			Filling (Picks)	
150	75	← Den. →	150	75
84			72	
104			72–76	
120			72–76	
140			72	
144			72	
	150			88

CREPES (acetate warp)

Flat warp, S & Z crepe filling—Widths 45 in. to 49 in.

Warp (Sley)				Filling (Picks)		
150	120	100	← Den. →	200	150	100
96				46–48	48	64
	108					64
		96			50	
	112			46	50	
	120			46	50	
		135		46–56		
		144				64

SATINS (acetate)

Flat yarn—Widths 39 in. to 41½ in.

Warp (Sley)			Filling (Picks)		
100	75	← Den. →	150	100	75
100			60		
140			64		
200				64–72	
	200			72	
215				68	
225				64–68–76	
	288			80–88	
390				96	
	320			88	96

CREPE-BACK SATINS (acetate warp)

Flat warp, S & Z crepe filling—Width 43½ in.

Warp (Sley)			Filling (Picks)	
100	75	← Den. →	150	100
200				76
	225			76
	280			80–88–96
	288			88
	300			88
	320		84	
320				88

COMBINATION-YARN FABRICS

Width	Name	Sley	Picks	Crepe/Acetate	Ply	Ply Twist
48-in.	Alpaca	36	34	75/100	4	S*
48-in.	Alpaca	44	38	150/150	2	S
47-in.	Cynara	52	40	100/150	2	S
48-in.	Magic Hour	54	44	100/150	2	S

* Final 4-ply yarn is composed of two 2-ply ends of 75/100, one S and one Z.

Width	Name	Sley	Picks	Crepe/Acetate	Ply	Ply Twist
48-in.	Romaine	52		100/150	2	S & Z
			44	75/100	2	S & Z
74-in.	Mock Romaine	52		100/150	2	S & Z
			46	200 voile	1	S
48-in.	Fortune	72		150 voile (2 ends)	1	S
				100/150 (1 end)	2	S
			54	150 voile (2 px.)	1	S
				100/150 (2 px.)	2	S

Seeks Wholly WATERPROOF FIBER

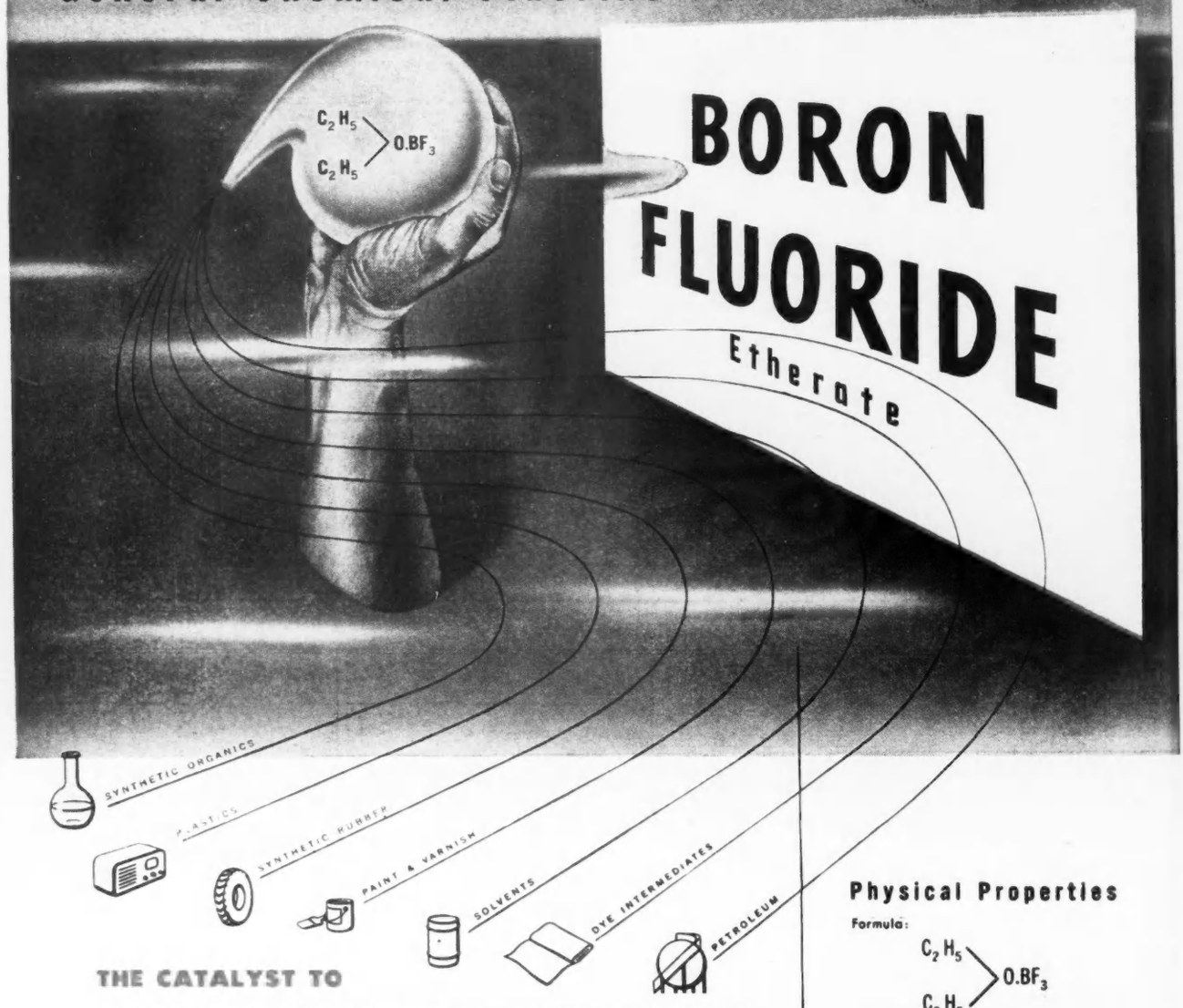
HIGHLIGHTS: *Du Pont technician reports fibers superior to nylon in test-tube stage—Cleaning will be facilitated—Fabric will retain original appearance for nearly the whole life of the garment.*

ELIMINATION of sensitivity to water on the part of a textile fiber is one of the principal objectives of Dupont technicians, according to Dr. W. W. Watkins of the Rayon Technical Division, Yerkes Plant, E. I. Du Pont de Nemours & Co., Buffalo, N. Y., in a recent address before the Ladies' Auxiliary of N. Y. State Exchange Clubs at Niagara Falls.

Nylon, less sensitive to water than any of the natural fibers, may some day be surpassed in the quality of moisture-resistance by even newer laboratory-developed yarns, he said. "We know of materials in the test-tube stage," he continued, "which are far superior to nylon in this respect, so that the day may come when textile fabrics will be almost completely impervious to the effects of water. Once we eliminate the sensitivity to water, one reason for dry-cleaning will disappear. Fabrics will maintain their original appearance for nearly the whole life of the garment, having creases where they are supposed to be and being free of creases or wrinkles where you don't want them."

Wrinkle-resistance, combined with stability of pleats and creases, already high in nylon through its quality to take and retain a "pre-set" form, will persist through laundering, Dr. Watkins pointed out. Longer life for window curtains, draperies, awnings, and automobile tops through greater resistance to light is also foreseen. "We are seeking fibers today," he continued, "which will be, for all practical purposes, completely impervious to the effects of light and weathering in general."

General Chemical Fluorine Research Presents...



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This new liquid fluorine compound has a multitude of uses. Technical literature—filling volumes—contains extensive data on the reactions catalyzed by BF_3 as well as by its complexes with other organic molecules. Repeated reference is made to its superiority to other catalysts since reactions are moderated and fewer undesirable by-products result.

Outlined at right are some of the principal applications for BF_3 as a catalyst. Perhaps they indicate ways in which you can utilize a chemical of these characteristics in your development or production program.

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Spec. Gr.	1.14 at 25°C
$\%BF_3$	47.8% min.

Some of the Principal Reactions Catalyzed by BF_3

1. Polymerization of unsaturated compounds such as olefins, diolefins, vinyl ethers, fatty oils, and terpenes. The products may be solid polymers useful as plastics or liquids as in the bodying of drying oils for paints and varnishes.

2. Condensation of aromatic nuclei with olefins and diolefins, paraffins, and olefins, and aromatic nuclei or olefins with acids.

3. As a cyclizing agent for rubber.

4. As an esterification catalyst.

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BASIC CHEMICALS
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England's COTTON INDUSTRY Outmoded—Reequipment Essential

HIGHLIGHTS: *Over 50% more labor required to produce cotton cloth, compared to U. S. A.—Winding and beaming operations badly out of line—Machinery manufacturers taken to task in Working Party Report.*

By A. WYN WILLIAMS

THE COTTON TEXTILE INDUSTRY of Great Britain is generally regarded, next to coal mining, as the one British industry that today has fallen most behind in production progress. Despite this, and its importance to the national economy, Britain's Socialist government, when it assumed power last summer, decided that, unlike other industries in a similar position, it would not proceed to nationalize it.

Instead, as a condition of its being allowed to continue to operate as a free-enterprize undertaking, the government ordered it to become the guinea pig for a new industrial-management experiment. A committee called the "Working Party" was appointed to report on "the steps that should be taken to strengthen the industry and render it more stable and more capable of meeting competition in the home and foreign market."

This committee of 13, of whom only four were required to have managerial experience in the industry, has after six months' study now issued its report. It adds little to what everyone knew before, namely, that the cotton-textile industry, once the pride of England, had become hopelessly inefficient and improvident. The report did, however, supply considerable new documentation. It also reaffirmed—and American textile men should feel proud of this—the previous conclusions of the Platt Commission, which were almost regarded as treason in England at the time they were made.

U. S. TECHNIQUES. The Working Party came to the same conclusion that the salvation of the cotton-textile industry lies mainly in emulation of American techniques in manufacturing. It went to even greater lengths in insisting on the greater efficiency of American textile machinery. Says the report:

"We believe that the pre-war quality of British spinning machinery compares favorably with that produced by other countries . . . In other types of machinery the position is not so good. The most efficient winding machinery was imported from America . . . so were drawing-in and knotting machines and the best type of specialty looms for high-class work. The Northrop looms made in this country were . . . as good as any looms of their class, but the Crompton and Knowles loom, which has the reputation of being better made, is only produced in America . . . We understand that strong efforts are being made by some of the British winding machinery manufacturers to make winding machinery as efficient as that of their foreign competitors."

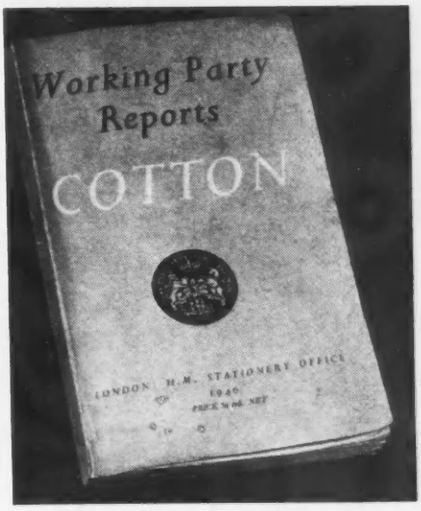
A particularly amusing comment in the report is that, apparently, English textile machinery manufacturers, if not openly antagonistic to the industry which uses the machines they make, do not believe, at any rate, in showing too much friendliness and cooperation. The report reads:

"One of the questions . . . put . . . was: 'Is there a sufficiently close coordination between textile machinists and the users of machinery?' . . . The textile machinists, with the exception of the makers of finishing machinery all said that there was. We do not agree. In our opinion there is room for much closer collaboration between makers and users and Shirley Institute."

The report later on proceeds to amplify its charges of non-cooperation by the textile machinery manufacturers:

"We have been forced to comment on the unsatisfactory relations that exist between the spinning machinery manufacturers and the textile industry . . . it is contrary to the interests of both industries that it should continue . . . We have formed the opinion that research and development in the spinning industry has not been on a scale adequate to maintain the industry's former leading position vis-a-vis other countries."

"The main point which stands out from our investigation [of weaving machinery] is the inadequacy of the British makers of automatic looms to cope with the requirements of the British weaving industry . . . The chances for the British textile industry to achieve a progressive future . . . will be greatly strength-

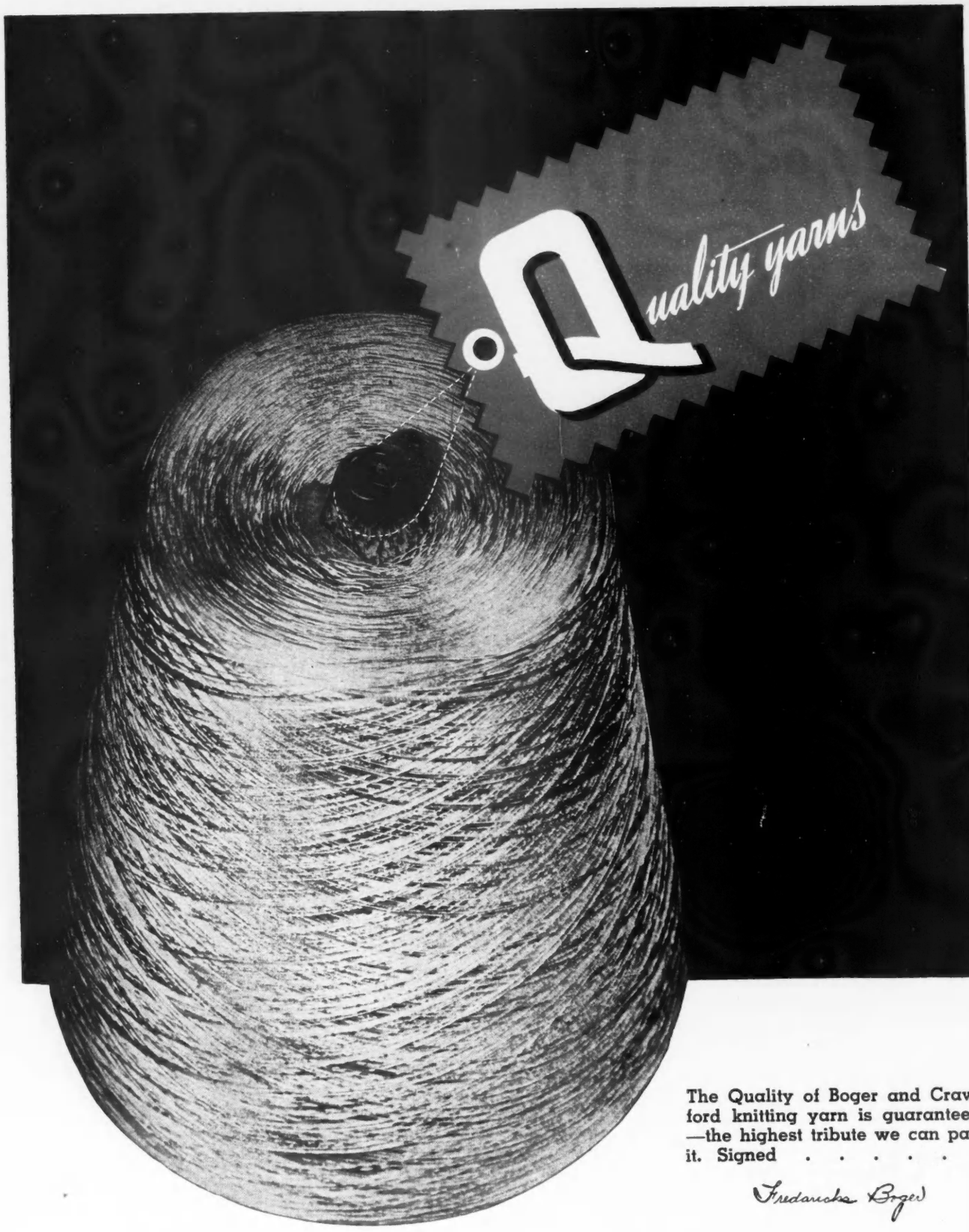


Complete report thoroughly goes into all phases of cotton textile manufacturing, including much of its background.

TABLE I. Comparative Labor Forces Required

Operation	Output per 48 hr.	Labor required	
		U. S. A.	Britain
Spinning	(9s, 250,000 lb.)	226	351
Spinning	(31s., 30,000 lb.; 43s, 18,000 lb.)	103	173
Winding and beaming	(12s, 120,000 lb.)	23	124
Winding and beaming	(30s, 30,000 lb.)	10	53
Weaving	(Coarse cloth, 1,515,000 yd.)	858	2002
Weaving	(Medium cloth, 788,000 yd.)	307	930

Effect of using mainly non-automatic looms in Britain is forcefully shown to account for much of excess labor needed.



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ened if there is a progressive British textile-machinery industry working in close collaboration with the British textile industry."

LESS U. S. LABOR. Bearing on the more efficient equipment in American mills, the Working Party's Report confirms that this equipment results not only in greater production in the U.S.A. but, also, in the employment of a smaller labor force for the same volume production. Taking as a standard the British cotton-textile output of 1937, the labor force employed in England could have been reduced as follows if U.S.A. methods had been employed—and this is of special significance to Lancashire today as will later be shown:

Spinning and Doubling .....38% less labor
Winding and Beaming .....80% less labor
Weaving .....62% less labor

This roughly means that, on the average, the English labor requirements could be halved (52½%). This is allowing for a 48-hr. week. If the 40-hr. week, for which there is agitation in England as there is here, is adopted, the saving of labor on the same standard of efficiency as in American mills would still be 40%. Table I illustrates the comparative labor forces needed in the two countries for the same output.

An analysis prepared by the Shirley Institute compares in the case of two cloths (coarse and medium) the operation hours required according to British and American methods. The labor consumed has been expressed in the form of "operative hours" per 100 lb. of gray cloth and is tabulated in Table II.

Summarized, Table II shows that for coarse cloth, 25.75 operative hours are required under the British method and 11.55 under the American method to produce the same amount of the same cloth. The American method thus shows a saving of 14.20 operative hours (55%), which is made up of 2.01 hr. (32%) in spinning, 3.63 hr. (81%) in winding and beaming, and 8.56 hr. (57%) in weaving. For the medium cloth, the total operative hours are 60.17 under the British method and 22.90 under the American method, showing therefore a saving of 37.27 hr. (62%) for the American method. Of this total, 9.04 hr. (47%) are accounted for on spinning, 6.11 hr. (81%) on winding and beaming, and 22.12 hr. (66%) in weaving.

LABOR SUPPLY. Apart from considerations of efficiency and lower cost production, there is another factor in the British cotton-textile industry today which makes reequipment imperative. The industry is suffering from a labor shortage which is apparently destined to be permanent. As of January this year, when all but 22,000 textile workers in the armed forces had been demobilized, the industry after the most strenuous recruitment campaign could muster only 226,000 operatives, compared with 570,000 in the industry twenty years ago and 393,000 in 1938, the year before the war broke out.

One of the principal reasons for the shortage is that for two decades juveniles have been shunning the industry as the following table of new entrants compared with annual loss shows:

Year	New Entrants (thousands)	Annual Loss (thousands)
1928	25.5	24.8
1929	23.5	13.9
1930	19.8	34.0
1931	16.1	48.1
1932	14.1	32.2
1933	12.5	44.9
1934	11.9	37.0
1935	16.1	37.9
1936	13.9	28.9
1937	12.1	30.8

The average age of the Lancashire operative, as a result of the lack of juveniles, is today 37 years. The senility of the employees in the industry is an added reason for the steadily falling productivity per hour in the industry, only secondary to the outmoded equipment. Considering the falling birthrate in England today, which makes the number of juveniles there less than the number in 1870, and also the number of competing industries which are more attractive to the youth of the country, the Working Party's considered opinion was that the industry can not hope to recruit within 65% the number of persons required to man the industry under the old conditions.

It is this which adds significance to the statement previously made that American methods and American equipment, which make up for a reduction of from 50 to 40% in the labor force necessary, would make up for the human material no longer available. The industry must modernize.

The Working Party thoroughly realizes this necessity. But the proposals it makes for raising capital for re-equipment is hardly in consonance with the ordinary ideas of free enterprise where the profit motive is intended to attract the money for capital expenditures. The Working Party suggests a forced levy on all the industry to build up a fund to bring about re-equipment. Spinning mills would be assessed about $1.00 per spindle and weaving mills would be assessed about $40.00 per loom to form a central fund on which any impoverished mill could draw for re-equipment funds.

All mills would have to contribute to the central fund, but the concession is made that the forward-looking mill which had installed new plant after September 1939 would be entitled to a rebate of 5% of the levy due in any year the levy arrangements were in operation. But as a side light on whether the Working Party can carry out its decisions and be anything but a debating society, it is illuminating to find that half the Working Party, representing mostly the non-labor interests, put in a strong dissent against the reequipment levy.

TABLE II. Comparison of British and American labor required for two cloths

Process	Coarse Cloth				Medium Cloth			
	British		American		British		American	
	OPH*	%	OPH*	%	OPH*	%	OPH*	%
Blowroom [Opening]	0.48	1.8	0.39	3.4	0.64	1.0	0.56	2.4
Cards	0.69	2.7	0.89	7.8	0.82	1.4	0.83	3.6
Draw frame	0.40	1.5	0.26	2.2	0.73	1.2	0.44	1.9
Slubber	0.49	1.9	0.50	4.3	0.68	1.0	0.73	3.2
Intermediate	0.96	3.7	omitted	.....	1.54	2.6	omitted	.....
Rover	omitted	.....	omitted	.....	3.77	6.3	1.80	7.9
Ring Frame	3.27	12.8	2.24	19.3	10.96	18.2	5.74	25.1
Sub-total Spinning	6.29	24.4	4.28	37.0	19.14	31.7	10.10	44.1
Winding	3.46	13.4	0.70	6.1	5.85	9.8	1.20	5.2
Beaming	1.02	4.0	0.15	1.3	1.72	2.8	0.26	1.2
Sub-total	4.48	17.4	0.85	7.4	7.57	12.6	1.46	6.4
Sizing	0.43	1.7	0.39	3.4	0.53	0.8	0.33	1.4
Looming [Entering]	0.72	2.8	0.41	3.6	1.07	1.7	0.46	2.0
Weaving	12.86	50.0	4.68	40.5	30.61	51.1	8.82	38.7
Warehouse	0.97	3.7	0.94	8.1	1.25	2.1	1.73	7.4
Sub-total	14.98	58.2	6.42	55.6	33.46	55.7	11.34	49.5
Grand Total	25.75	100.0	11.55	100.0	60.17	100.0	22.90	100.0

* Operator hours per 100 lb. of gray cloth produced. Next column shows percent of total.

Shirley Institute studies show comparison of individual operations in England and the U. S. A.

RAYON REPORTS

Prepared Monthly by American Viscose Corporation, New York, N. Y. JULY, 1946

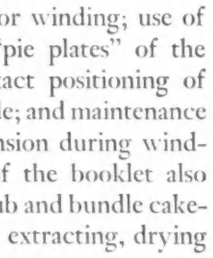
NEW GUIDE ON HANDLING RAYON CAKES HELPS USERS GET FULL BENEFITS

To help the growing number of users of rayon in cake form, American Viscose Corporation has just released an instruction booklet and handling guide. Clearly illustrated with photographs and drawings, the booklet shows how lower costs, better quality yarns and fabrics, and greater employee satisfaction can result from proper handling of rayon cakes.

Cake Winding at American Viscose Corporation

Particular attention is paid to cake winding, which involves the use of properly positioned inserts of the right length, thickness, and liveliness; careful preparation of the cake and cake cover for winding; use of holder caps or "pie plates" of the required size; exact positioning of the first yarn guide; and maintenance of the proper tension during winding. A section of the booklet also deals with both tub and bundle cake-soaking and with extracting, drying and conditioning.

Cakes are going directly to manufacturers for flat filling winding, crepe twisting, voile twisting, marquisette twisting, hosiery twisting and cake dyeing. They are available at a lower price than other packages because a repackaging operation is eliminated in the rayon producing plant.



Rayon in Cake Form

Copies of the booklet, entitled "The Handling of Rayon Cakes," are available on request from American Viscose Corporation, 350 Fifth Avenue, New York 1, N. Y.

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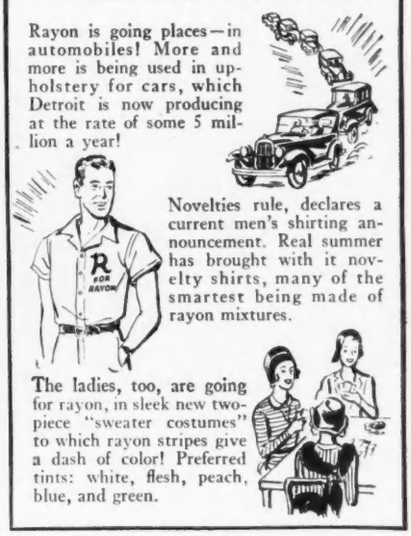
RAYON . . . 20 YEARS AGO



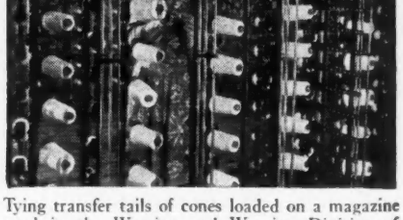
Rayon is going places—in automobiles! More and more is being used in upholstery for cars, which Detroit is now producing at the rate of some 5 million a year!

Novelties rule, declares a current men's shirting announcement. Real summer has brought with it novelty shirts, many of the smartest being made of rayon mixtures.

The ladies, too, are going for rayon, in sleek new two-piece "sweater costumes" to which rayon stripes give a dash of color! Preferred tints: white, flesh, peach, blue, and green.

TWO SYNTHETIC LUBRICANTS READY FOR TEXTILE TRADE

Developed by the AVC Textile Research Department, two new synthetic lubricants, "Avcodisk" and "Avcosew," for treating yarns and sewing threads, respectively, are now being introduced. "Avcodisk" is a synthetic wax treatment for lubricating all types of yarn where softening and antistatic properties are required. "Avcosew" identifies a new range of synthetic lubricants for treating sewing thread. Atlas Powder Company will make and sell the products. They will be serviced by the American Viscose Textile Research Department.



Tying transfer tails of cones loaded on a magazine creel in the Warping and Weaving Division of AVC's Textile Research Department, Marcus Hook, Pa. The creel is one of a practically complete line of full-size textile machines used by the Department's technical staff for rayon textile research and development.

ADV.

Preparation Lowers Loss in FABRIC PRINTING

HIGHLIGHTS: *Bad printing impressions and damage to equipment are eliminated by proper sewing, mangling, calendering, tentering, and batching—Supervision prior to printing is not difficult—Proper handling is important in producing good registration as well as clear and undistorted patterns after finishing.*

By T. N. PATRICK

Recurrent defects would spoil a large yardage in such a finishing plant as this.

A MUCH HIGHER DEGREE of precision is required in printing than in dyeing because of its nature. For instance, the cloth must be tensioned and put in such a condition that the printing impressions are registered in exact repeat at each revolution of the rollers or at each laying of the screens and blocks, as the case may be. To insure this, special precautions are necessary.

It may be noted that the cloth must first of all be absorbent. Softness is the next desirable quality, for it is possible that a cloth may be absorbent without being soft enough to take a suitable printing impression; impregnation with suitable reagents may be necessary here. Straight filling, well-tensioned fabric, and correct width are all taken care of by tentering. A clean surface is another important factor. Impregnation with various solutions required for fixation of colors, for elimination of printing faults, etc. is a further requirement.

SPECIAL PREPARATIONS. Preparation may be divided into two classifications: (1) Mechanical treatments and (2) impregnation treatments. Included in the mechanical class are sewing, mangling, calendering, tentering, brushing, and beaming or batching. Impregnations include wetting agents (like sulphonated oils, etc.), tannic acid for fixation of basic dyes, naphtol component of azoic dyes, resist salts (in vat and discharge), soap as softener, and gum.

The sewing of ends is likely to have far-reaching effects in printing if carelessly done. First, in continuous processing, it lowers production speed considerably if stops have to be made in order to rectify badly sewed ends. If an end bursts at a mangle, the cloth may be carried round the mangle bowl for some yards, causing loss of time, damage to the cloth, and, in bad cases, even damage to the mangle bowl itself if it is made of rubber.

Ends improperly pulled out before sewing will often lead to creasing in the nip of the mangle. Such creases may eventually reach the printing machine (if the cloth does not require tentering) and give rise to faulty printing.

A loose corner left in sewing may lead to damage in the form of a tear-out in the tenter frame or in a finishing machine, such as a calender. In the latter instance, damage to the calender bowls may easily result, leading to expensive repairs and loss of time.

Hanging threads from badly sewed ends are a constant source of trouble. These may find their way into a colorbox in the printing machine and give rise to such forms of damage as doctor-lifts, color trails, snibs, etc. Constant repetitions may lead to substantial claims for printer's damages.

An even more serious form of trouble arising from hanging threads may occur in the ager when steaming vat-printed goods for fixation. A loose thread may catch on a sticky roller in the ager and cause a slight tear, which eventually rips the piece across. In the latter case, the piece begins to wrap round the roller; and the loose end left in the machine may come to grief in a number of ways. Another fault from the same cause is a torn-off selvage in a roller ager, running perhaps for several pieces before the fault is detected.

Where a sewing machine is known to be even slightly faulty, it should be immediately repaired. Seams, which may carry safely through a number of processes, may come to grief when tension is applied at a later stage, as instanced in the ager. Different color threads for machines in separate departments will help toward location of faults.

In one instance, seams which had car-

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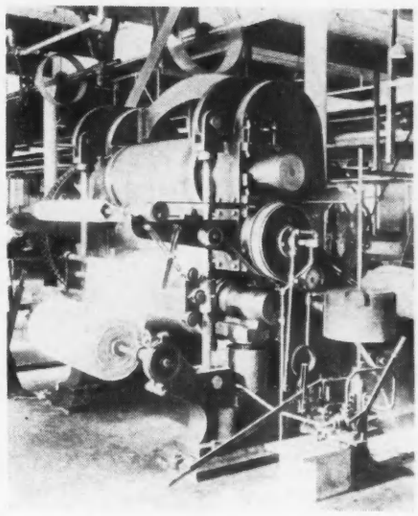
ried safely through all previous processes caused trouble in the final tentering for finishing. This matter came to light on detection of a slight difference in the finish from a previous lot which was presumed to have been finished in exactly the same way. It was discovered early in the run that the seams were not holding up to batching at the delivery end of the tenter; this meant plaiting-off instead of batching if the seams were not all resewed. The operatives therefore omitted the batching so that occasional burst ends could be resewed before a final light calendering. The difference in tension and pressure in tentering led to the difference in finish already referred to.

MANGLING. Mangling may be for drying after scouring and bleaching, or for some of the necessary impregnations.

Mangle creases may be one effect of badly sewed ends. Faulty opening of cloth may also have the same result. Such creases are specially noticeable on each side of a seam and may cause damage in printing extending for several yards on each side of the seam. This trouble is likely to occur in shirting styles, where the goods do not require tentering before printing. Where it does occur, the goods may have to be tentered to insure removal of the creases. It is also important to take precautions to have the fault rectified at the mangle.

Too much mangling may lead to printing trouble. In one instance of this sort, blotch patterns were being produced on linen toweling. During printing, it was discovered that the white parts of the design were not clearly defined because the print paste seemed to be flushing on the face of the cloth. The cloth surface appeared shiny and seemed to have been heavily mangled in drying. The mangle concerned was a two-bowl machine with a hard-rubber top bowl and a brass bowl below. The result was a semi-finished appearance and feel which was not removed on tentering. On re-washing the cloth and hydro-extracting before can-drying (without mangling), the shiny surface was avoided. As the cloth was therefore more absorbent, a perfectly level and well-defined printing impression was obtained.

A defective bowl in a mangle, either for drying or tentering, may lead to slightly damp spots on cloth going to the printing machine. This slight dampness, under the heavy pressure of printing, may possibly lift some of the film of print paste from the unengraved parts of a roller carrying a dark color. The regular reptition of a fault of this type will indicate its origin and the obvious remedies.

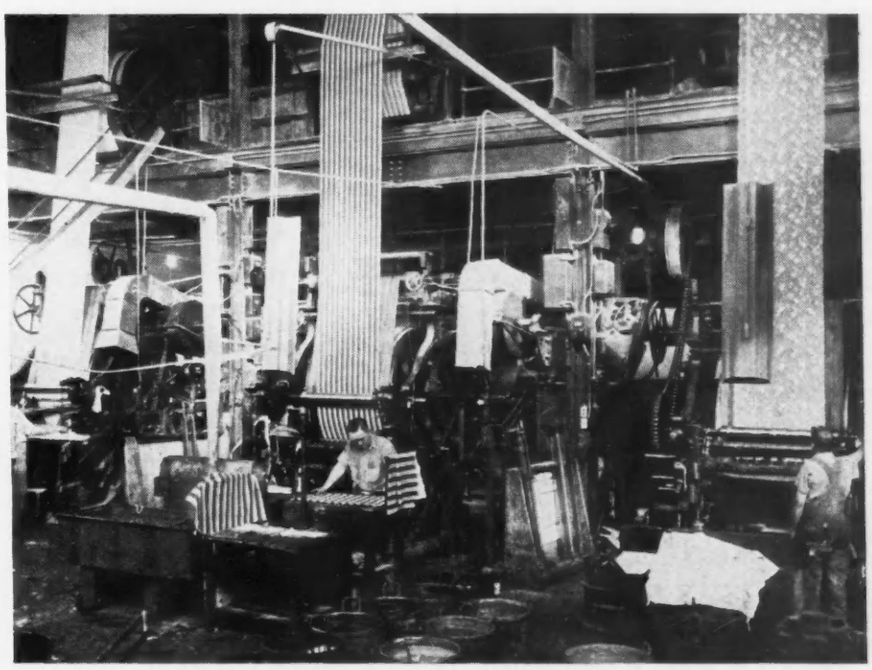


Calendering is important in preparing cloth for some types of printing.

TENTERING. Lack of thorough drying during tentering may also give rise to damp spots. The fault may develop from running the goods too quickly, or it may result from starting up with cold clip-chains. In either case, the selvages are left slightly moist and lift a film of color from the printing rollers as already described. Where a fault of this type occurs, it may be possible later on to rectify the trouble unless vat dyes have been used, when it is out of the question. Chrome-mordant dyes lifted in this fashion may yield to a clearing treatment in weak sodium-hypochlorite solutions, if the rest of the colors in the patterns will stand up to such treatment. Azoic dyes which have lifted in this manner may also be removed by padding the faulty goods in a weak solution of sodium sulphoxylate formaldehyde, drying, and steaming in the ager.

When tentering for printing, the usual practice is to batch the cloth at the delivery end of the frame. For this purpose, the batching roller is covered with gray cloth to give purchase and grip. In one instance, it was discovered that batches, which were being delivered straight to the printing machine from the delivery end of the tenter, were giving a lot of trouble in the form of small, horizontal color marks (or snaps) on the unprinted part of the cloth. These marks varied in length from ½ to 1½ in., and were followed by a scum, which varied from a few inches to a yard or more. Such faults are caused by small pieces of foreign matter lifting the doctor blade and allowing print paste to pass through at the lifted place. Typical causes of the fault are small lumps of thickening, lint from the cloth surface, hairs from a faulty brush-furnisher, etc. In the case used here as an example, many pieces of broken threads, cloth hairs, etc., were found in the filter cloth when the print paste was strained These were eventually traced to the gray cloth on the batching roller at the delivery end of the tenter frame. The cloth had become worn and frayed; and, as the tentered fabric was batched on, broken threads became incorporated in the batch and were ultimately carried into

(Continued on page 212)



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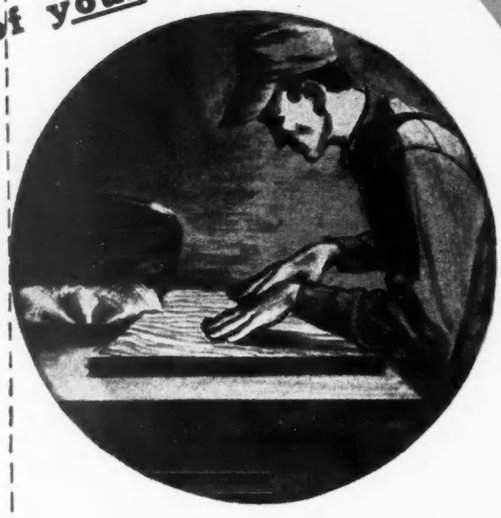

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CHEMICALS INDISPENSABLE TO INDUSTRY AND AGRICULTURE

Shirley Institute Measures COTTON-CLEANING Methods

HIGHLIGHTS: *Surface opening and air flotation are the two basic principles of cotton cleaning—Cleaning measurement formula obtained from analysis of cleaning action and lint loss—Card lickerin rated "the most effective" of all cleaning devices.*

By Dr. FREDERICK T. PEIRCE
Director of Research, N. C. State Textile School

A FRAGMENT of leaf has hidden in a lump of baled cotton. Hammer that lump, knock it around, and blow it about in a cyclone; but the bit of leaf remains snugly hidden and firmly embedded as long as the lump remains a lump. Break the lump, and the leaf comes to the surface and very easily falls out. That is a simple, common-sense view that emerged from a long study of Lancashire "blowrooms," or opening and picking departments.

When a new surface is formed by the breaking of a lump or tuft, that action is sufficiently violent to dislodge most particles of trash; and there is little gained by rubbing or blowing it about. From the newly made surface, some cotton fibers fall out also. The chance of a particle of trash or cotton fiber to fall from the surface of the lump or tuft depends on its clinging power. On the whole, trash is much more likely to fall away than lint; and so the proportion of trash in the stock that goes to waste in any action is much greater than the proportion of the lint that goes to waste.

When cottons of different cleanliness or grade are put through the same action, the proportions of lint and trash going to waste are roughly constant and give a measure of the efficiency of opening and cleaning in that action or machine. If one wants to measure the action of openers and pickers, one must get a measure of these proportions —first, a test method to separate and weigh the lint and trash in any sample of stock or waste; then a measure of the proportions of lint and trash in the stock that goes to waste.

OPENING MEASURED. The proportion of trash by weight in the stock is the "weight grade," and the change caused by any action is a measure of the cleaning action. The lint loss is measured by

From the address, "Studies on the Cleaning of Cotton," before the STA convention, Myrtle Beach, S. C., June 8, 1946.

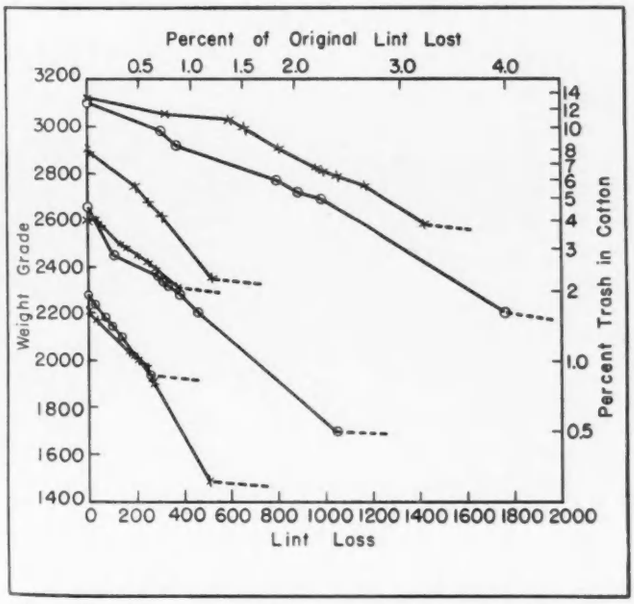


Fig. 1. Opening up more and more surface of the cotton lumps results in a constant slope of cleaning as shown in this composite graph of waste tests. Steep slope means trash falls out of cotton quickly.

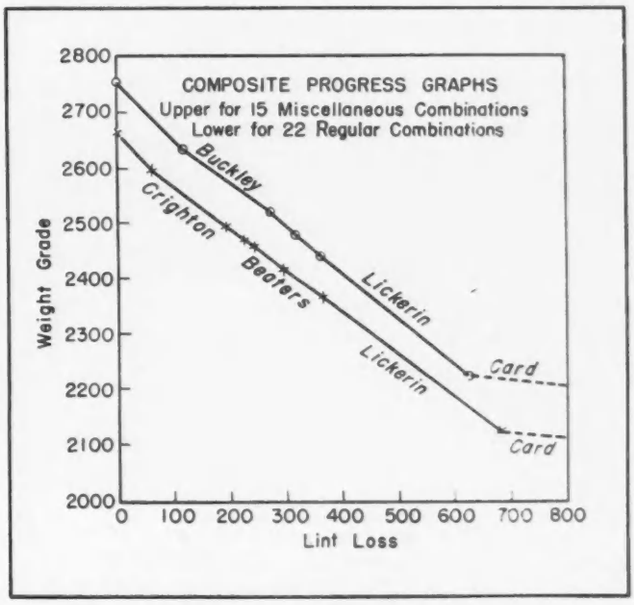
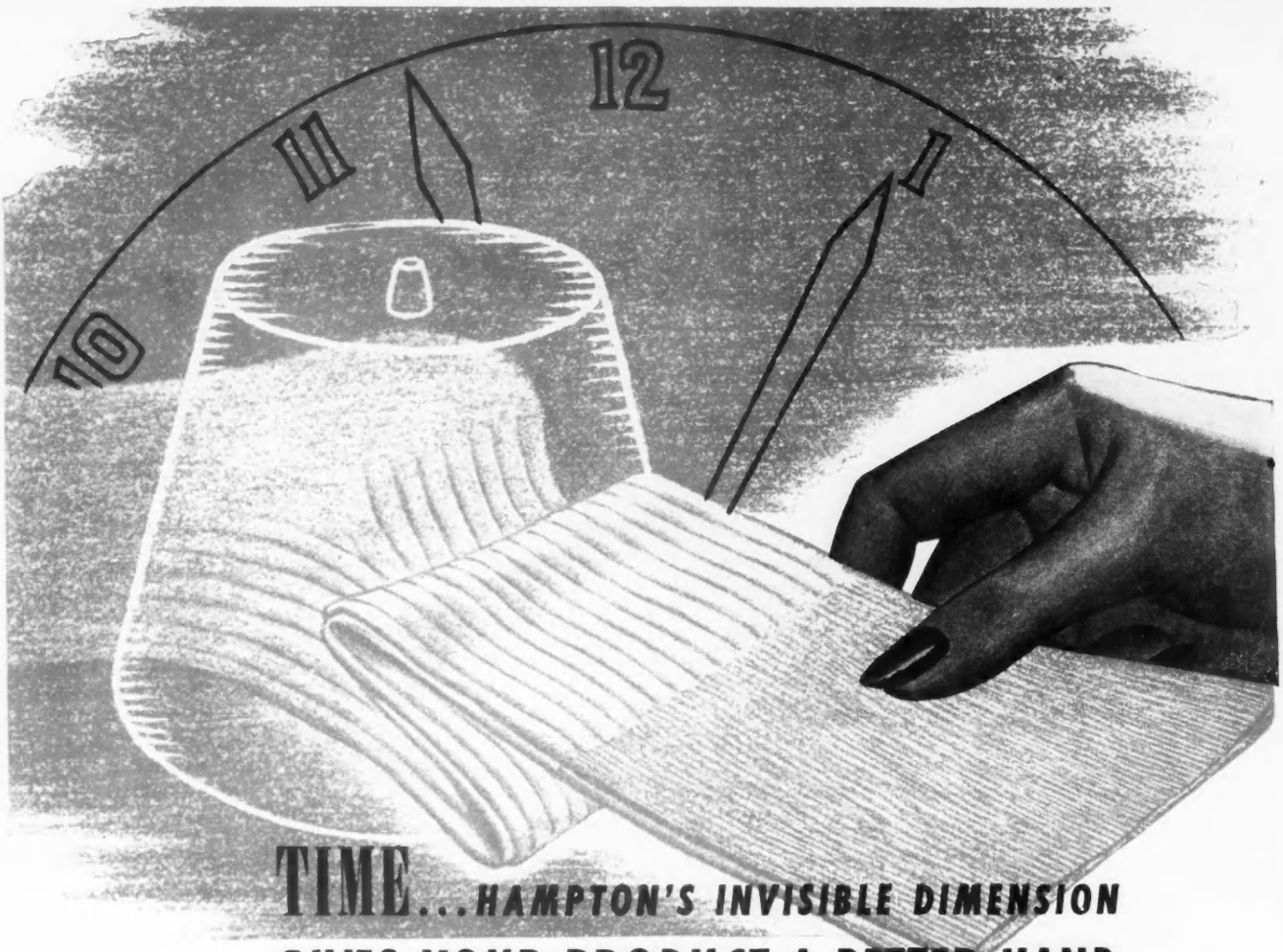


Fig. 2. This progress graph shows the various cleaning actions of common machines in normal and special combinations as studied by the Shirley Institute in England.



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the change in the amount of cotton left in the stock from 100 lb. of raw stock.

It is possible to measure the cleaning and the lint loss both proportionally, so that one can add the measures for two successive actions to get the measure of the combined action. Without such measures, the question of cleaning cotton must remain one for argument between personal opinions, which has not got it very far in a long time.

If one plots the weight grade against the successive lint-losses as the stock goes through the openers and pickers, one gets a "progress graph" of the action of the combination. A steep slope indicates that the trash falls out relatively easily. A very dirty cotton generally shows a rather steeper slope, its trash being relatively heavy and less clinging, with more sand, seeds, and stalk than the fine, clinging leaf-particles which predominate very high-grade cotton. It is significant, however, that the slope does not change significantly as the cleaning proceeds. It is not a question of eliminating first the easily removed trash, but of opening up more and more surface. This is shown most clearly by composite graphs made by averaging results from some 20 waste tests as shown in Fig. 1.

COMMON MACHINES. The length of a line representing the action of a machine can be a measure of its cleaning and opening power; and its uniform slope is a confirmation of the opening theory of cleaning and on which has been based a systematic study of cleaning machines. The composite graphs in Fig. 2 show the normal and average behavior of the various common machines in common combinations. By far the most effective machine is the card lickerin, even though it takes over when all the rest have done their best or worst. The Buckley or horizontal opener is the next, a little more powerful in action than the Crighton or vertical opener, but a little less if one includes with the vertical opener the dust trunks that usually follow it. The dust trunks do no opening or cleaning, but should really be regarded as part of the preceding machine—a waste collector. One dust trunk is about as effective as 20 or 30 and flocks the cotton less. Two or three pickers do about the same work as a horizontal or vertical opener. The whole cleaning action, from bale up to the card cylinder, varies greatly; but normal behavior shows that 72% of the trash is eliminated at a cost of 1.3% of the lint.

Having a measure of the action of a cleaning machine and a norm or standard by which to judge it, we may study more effectively the action of particular machines and the behavior of various kinds of cotton and trash. Particular waste tests show wide variations from the normal. Sometimes the lint loss is very large, with only a normal value of cleaning for the machine. This may be due to nothing but bad waste collection, allowing part of the stock to go to waste; but it often is due to flocking or rat-tailing. Dust trunks and other parts in which cotton is blown or knocked around without breaking tend to cause flocking and excessive lint loss. An overfed machine, set to produce more than it can deal with, gives a low value of cleaning but relatively large value of lint loss. Sometimes the waste collection is too conservative, so that the potential waste, loose trash, and lint recombine with the stock. This lowers both the cleaning and lint loss to much the same degree. It is a pretty poor way to save lint loss. A low value of cleaning with a normal lint loss generally means a very clinging type of trash, a pepper of fine leaf, or small fuzzy seed particles. This may be found in cotton of high grade, where the cotton has been cleaned well in ginning.

If stock is put through the same machine time and time again, cleaning and lint loss fall off in similar proportions as a machine tends to produce tufts of a certain minimum size, and these pass through without further effective action. One can, in fact, calculate the action of a machine when stock is put through it repeatedely from its observed action in the first passage.

AIR FLOTATION. From the point of view of seeking improved methods of cleaning, great interest attaches to those cases where the cleaning is unusually high, particularly if the lint loss is low. This may occur in the first machines, even a bale breaker, due to the falling out of loose sand and heavy trash not imbedded in the lumps of cotton. Sig-

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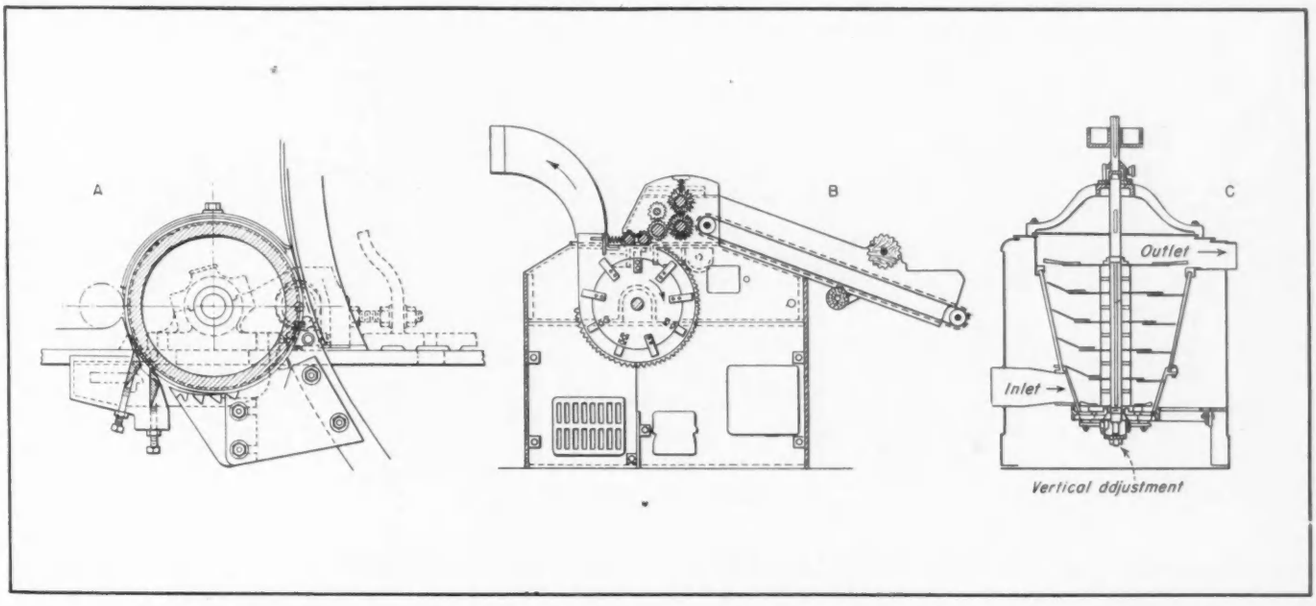
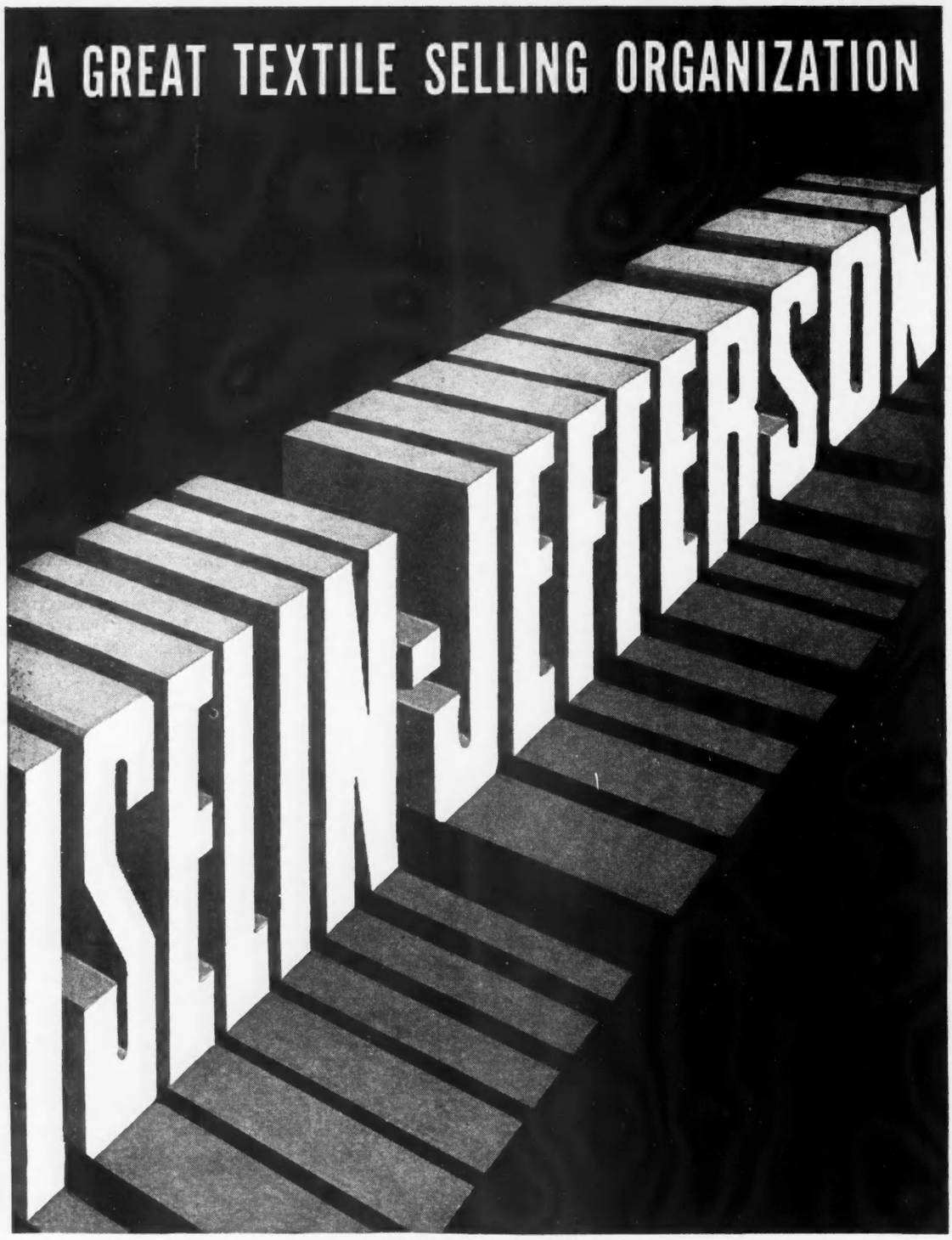


Fig. 3. Translating the Shirley Institute studies of Lancashire "blowrooms" to the corresponding American processes, the artist shows: A, a card lickerin, which was described as the most effective cleaning device; B, a horizontal opener, "a little more powerful in action than the vertical opener," and second to the lickerin; and C, a vertical opener, which in combination with a dust trunk was considered a little more powerful in action than the horizontal opener. Dust trunks can be considered as part of the cleaning operation.



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FIBER-ARRAY TECHNIQUE—
Simplify It for Mill Use

HIGHLIGHTS: *Carding overseer eliminates weighing and drastically reduces computing in evaluating fiber array—Array reveals 26% variation in mean length of cotton classed 1 in.—Test results indicate needed machine adjustments.*

By SETH CARTER

• A short-cut method for testing textile fibers, particularly cotton, is a need recognized by many practical mill men. The method discussed here by Mr. Carter is a modification of the U. S. Dept. of Agriculture array method and the Fibrograph method. It deals only with fiber length and, therefore, is not recommended for use in gathering data to serve as a guide in purchasing cotton. However, because of the almost inseparable association of other fiber properties with length and the more complete length picture given by the array method than by classer's length, this short-cut procedure can well be used by technicians, superintendents, and overseers as an aid in solving many mill problems.

THE MAJORITY of operating mill men today are becoming increasingly fiber conscious. Stock for processing is no longer just so many bales of raw material to be mixed together and manufactured into a particular line of goods. The tag attached to each bale to designate grade and staple, or denier and fiber length, does not tell the whole story. There are many more variable properties than those stated on the tags; and the greater the mill man's knowledge and control of these variable properties, the more effective will be his processing and the higher the quality of his finished goods.

Fiber technologists have detected and classified many variable properties of cotton. They have determined the comparable values of these properties and their effects on finished yarn. A compilation of the results of many actual spinning tests indicates that the three most important measurable variable properties of cotton fibers are: fineness, strength, and length. All three of these properties have an important influence on the strength of the finished yarn.

FIBER LENGTH. However, a recent Department of Agriculture bulletin on spinning tests of selected cotton stated, "In general, there is a fairly close relationship between the classified staple length and the fineness and strength of the yarn that can be manufactured from the cotton."

It can be added to the above statement that mean fiber length is a better and more consistent indicator of potential yarn strength than classified length. Maximum fiber length and upper-mean length, both of which are factors of mean length, also have an important influence on yarn strength.

Government tests on 28 varieties and types of Upland cotton, all of 1-in. classified length, show that the mean length of 1-in. cotton can vary from 0.69 to

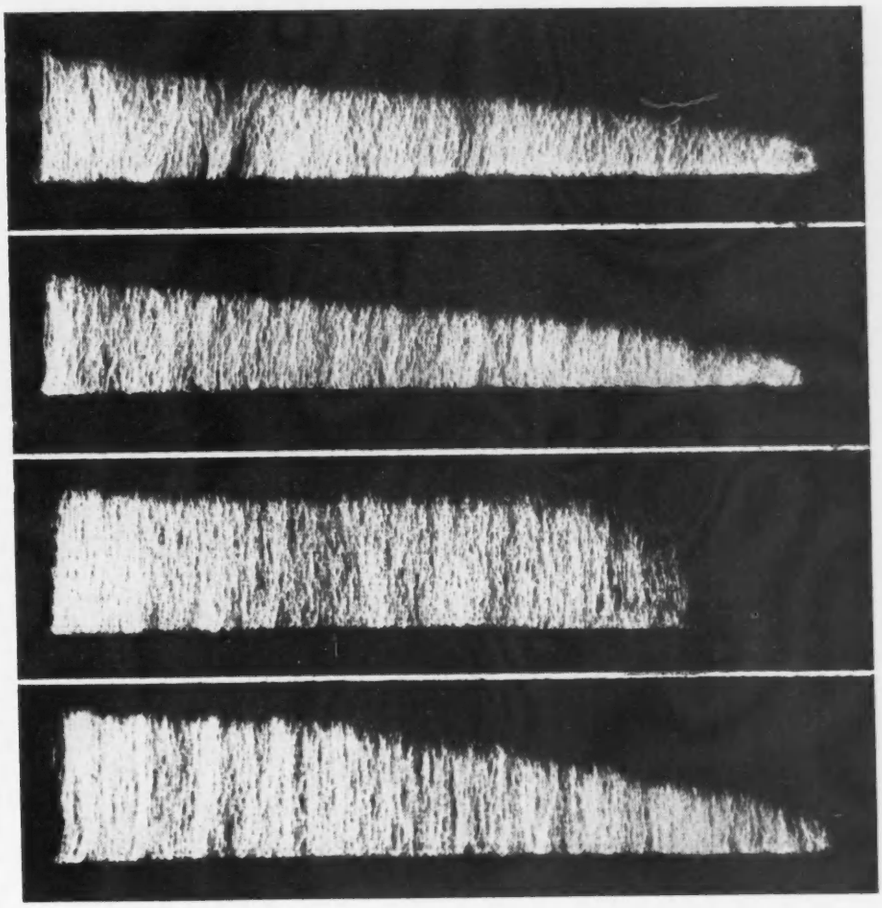

Fig. 1. Typical arrays, reading from top to bottom, of 1-in. cotton, flat strips from 1-in. cotton, 1 9/16-in. rayon before processing, and 1 9/16-in. rayon after processing. Note the long fiber present in the flat-strips sample.

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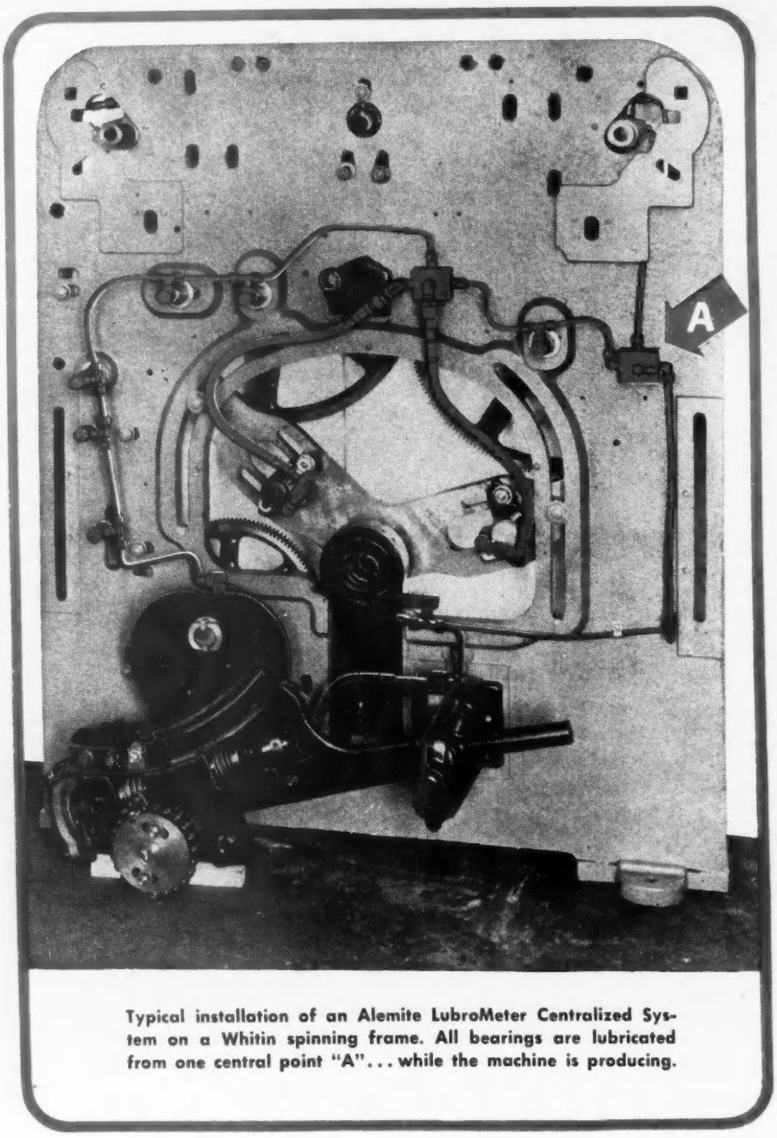

Typical installation of an Alemite LubroMeter Centralized System on a Whitin spinning frame. All bearings are lubricated from one central point "A"... while the machine is producing.

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0.87 in.—a total variation of 26%. Skein breaking strength of 22s yarn made from these samples of cotton shows a variation of 83 to 108 lb., a total variation of 30%. These figures appear to prove that classified length is no guarantee of spinning-strength value. Mean length, however, does bear a close relationship to yarn strength and can be used to predict the strength of the finished yarn.

Past experiences of many mill men in attempts to adapt laboratory technique to fiber-length determinations on an actual production basis have been discouraging and have resulted in the abandonment of many such projects. Highly developed technical knowledge and skill are required to select, prepare, array, measure, weigh, and compute fiber-length values with any degree of precision; and the time consumed on each array prevents many such determinations being made within a reasonable period of time.

SIMPLIFIED ARRAY. The solution to the problem of rendering fiber-testing techniques more practicable obviously is to eliminate all unnecessary measuring, weighing, and computing. This simplification can be accomplished by laying down an array so uniform along its entire length that any given section of it will contain approximately the same number of fibers as any other comparable section. With such an array accomplished and charted, the upper fiber line graphically represents fiber-length values. Maximum, mean, upper-quartile, upper-mean-classified, and all other length values can be read directly, with no weighing and little computing necessary.

That consistent comparable values can thus be obtained is proved by making three arrays from a specimen. Length values measured at similar points in the three arrays are, in many cases, identical; and mean lengths of the three arrays vary within small percentages.

This method appears to be a much too simple solution to a complicated problem. However, comparisons made between results obtained by this method and by other methods show that indicated values are as precise and are actually more consistent when using this simplified method. The technique for making this type of array is easily acquired; and the many personal errors involved in measuring, weighing, and computing are avoided. One important precaution is necessary, however. Since fiber length is affected by moisture regain, all specimens arrayed must be conditioned to standard regain in order to yield consistent results.

Cotton of wasty appearance, of a type or variety new to the mill, or of a new season's growth should be arrayed to determine its length value and the expected yarn strength. Cotton cannot be bought on a specified mean-length basis, but types showing an abnormally low mean length can be avoided or blended with bales of a greater mean length.

USES OF ARRAY. Fiber arrays can be used for positive measurement on disputed bales to confirm or correct the classer's measurements. The equivalent classified length will be indicated at a fixed point on the array, as shown in Fig. 2.

Graphical array diagrams of parctiularly desirable types of cotton can be filed away for future reference and for comparison with diagrams of new types. Such comparisons can often explain or prevent loss of yarn strength due to low mean-length values.

Since length is the only dimensional property of fibers (cotton or synthetic) that undergoes any significant change during processing, a progressive check should be made on fiber length through all processes to prevent undue loss or breakage of good fiber.

Card-flat strips generally contain an avoidable excess of good fiber. Much of this good fiber can be retained in the sliver by proper card settings and adjustments. Fiber arrays clearly show the amount of long fiber in strips and also the effect of card changes made to reduce the amount.

Avoidable loss of long fiber in combed noils is a common condition in many combed-yarn mills. The percentage waste determination shows only the amount of noil removed and does not indicate its length value. Fiber arrays will show this value and have often made possible a saving of 0.2% in noils without loss of yarn quality.

Proper control of waste removal through all the mill processes can be greatly aided by the judicious use of fiber arrays as a guide for making machine adjustments. The present trend toward the increased use of synthetic fibers makes the use of fiber arrays more important. Fiber breakage can easily be caused by faulty machine adjustments, particularly when the machine is processing fine-denier fibers. Arrays detect this breakage.

Roll settings should be governed by the maximum length of fibers at the point of processing and not by the classified length of the cotton in the bale. The closer rolls can be set without pinching or breaking fibers, the more even will

(Continued on page 209)

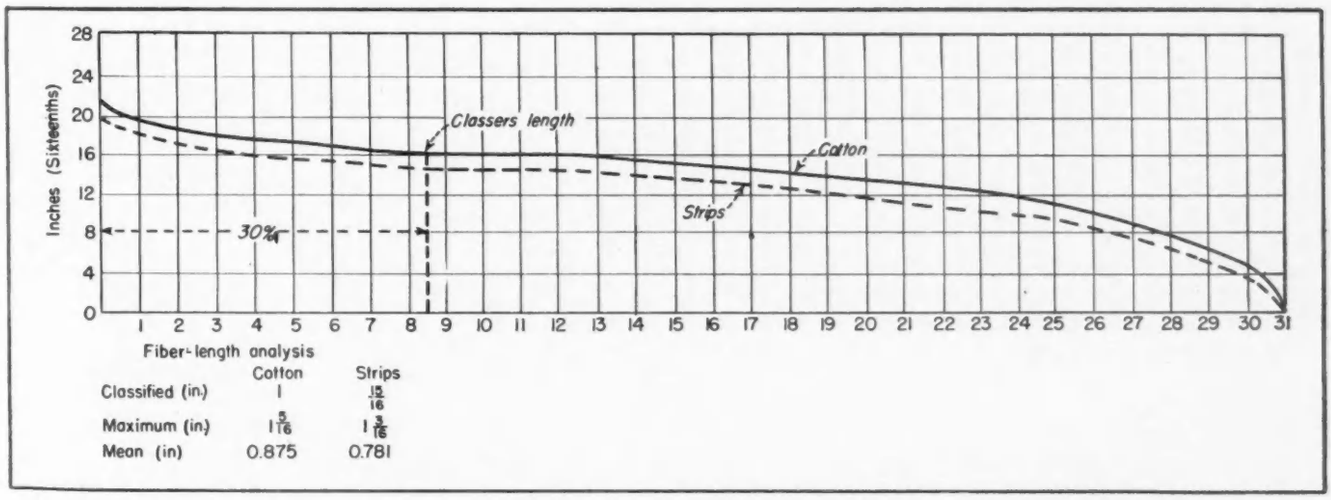

Fig. 2. A graphical analysis made directly from a fiber array of 1-in. cotton without the involved process of weighing. Classification point is at 30% of the total length of the array measured from the long-fiber end of the array. This diagram was made by measuring the lengths of fibers of comparable points in the cotton and strips arrays, locating corresponding points on the paper, and connecting these points with lines.

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Point by point, check the general-purpose lubricant you are now using in your machines. It may be doing a perfectly good job of lubricating. But is it easily washed out in the finishing process? If it isn't, then you must either change the lubricant to suit the fiber being worked or take a chance on having high stain losses in the finished goods.

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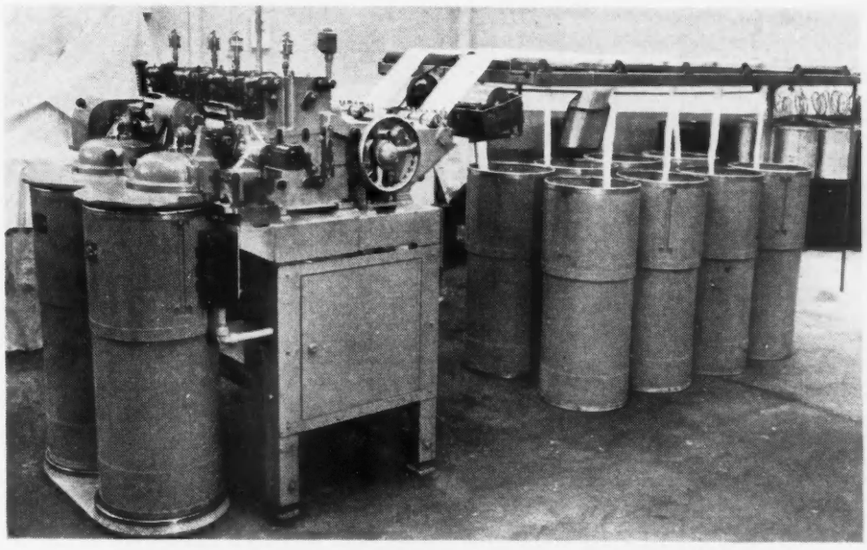
TEXTILE Equipment NEWS

Production Started On New Pin-Drafting Machine



Double-head pin-drafting machine built to replace conventional gill boxes.

Encouraged by the performance of its pin-drafting machine in recent test runs at the plant of the Uxbridge Worsted Co., Uxbridge, Mass., Warner & Swasey, Cleveland, O., machine tool builders, are readying 25 more of the machines which will be completed by Sept. 1. Full-scale production of this new product is predicted by the first of next year.

Developed after two years of research and engineering, the pin-drafting machine reputedly might replace the conventional-type gill box because of its speed and ability to turn out better sliver.

The Warner & Swasey pin-drafting machine has a double head, each using from four to six slivers, pulling them through a series of moving fallers, or combs, that travel in the same direction as the slivers. Each of the heads has 74 fallers with each faller carrying 145 pins.

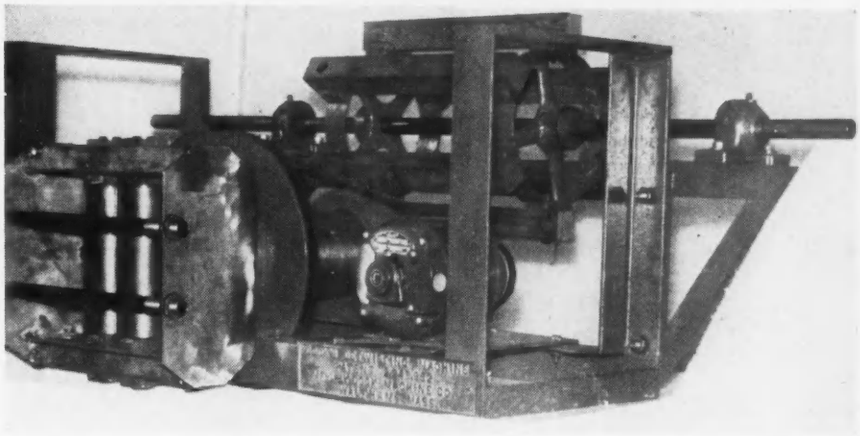
The 25 machines now in process of construction have all been purchased by Uxbridge.

Cloth Detwisting Machine Uses Reversible Motor

A new cloth-detwisting machine has been announced by Cook Machine Co., Waltham, Mass. The new machine, designed for use as a unit of a cloth opening and extracting range, is constructed of three main parts. A steel frame supports the other parts and is adaptable for either horizontal or vertical mounting. A stainless-steel cage extends the width of the machine, and contains a long stainless-steel tube, two brass rip rolls, and two brass guide rods. A reel is the third part and is used for changing the direction of cloth travel, where required.

Cloth in rope form enters the roll end of the cage through the nip rolls and tube, is untwisted by the revolving cage, and proceeds either around the reel or direct to the opening machine.

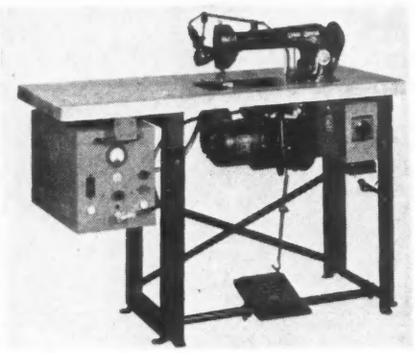
Some of the advantages claimed for the detwisting machine are: One-man operation, switch-handle control of twist, prevention of production stoppages, prevention of fabric distortion, and beater speeds reduced 80% when used with scutcher.



Cloth detwisting machine is driven by reversible, variable-speed A.C. motor to provide close control over twist removal. (Cook)

New Electronic Seamer For Thermo-Plastic Materials

A new line of machines for electronic seaming of thermoplastic film materials, such as Vinylite, Pliofilm, Koroseal, Saran, and others, is announced by Union Special Machine Company, 486 North Franklin St., Chicago. A typical unit is illustrated in the accompanying picture. It is equipped with an RCA 200-megacycle constant-frequency power generator. Power is supplied to rotary-type electrodes at the seaming head. This machine is said to have sufficient power to



Electronic seamer for thermoplastic materials operates on ordinary 110- to 120-volt outlet; control is conventional treadle. (Union Special Machine)

seal 10 thicknesses of .004-in. vinyl film or 2 thicknesses of .020-in. film. Power is taken from any ordinary 110- to 120-v. single-phase, 60-cycle A.C. line capable of supplying 13 amp. The controls include a conventional treadle connected to a ½-hp. clutch-type motor which drives the seaming head. The same treadle also controls the "off-on" switch for high-frequency power to electrodes. Seam widths ranging from ⅛ in. to ¼ in. may be obtained by changing the top electrode. The distinctive feature of this machine is reported to be its ability to produce the fused seam in a silent, continuous operation. The same principle has also been applied to a "feed-off-the-arm" seamer for producing tubular sections continuously in any length, it is stated. The manufacturer advises that various guides, folders, and attachments may be used in much the same manner as on needle-type sewing machines.

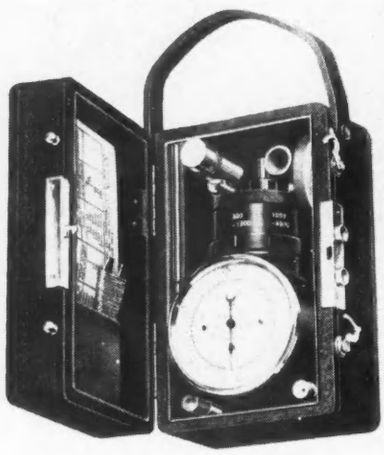
Corrugated-Board Pallets Discarded After One Trip

Expendable pallets for use with fork-lift trucks have been announced by Techtmann Industries, 714 West Wisconsin Ave., Milwaukee 1, Wisc., and designated "X-P." High strength, combined with light weight and low cost are reportedly achieved by use of a double corrugated-board top supported by square or round wooden blocks. Entire top and block ends are dipped in water-resistant adhesive to seal off moisture from the load.

X-P pallets are said to carry a 4,000-lb. load without failure and, despite a cost reported to be sufficiently low to permit discard after one trip, are designed to survive a number of trips without appreciable damage.

A number of sizes are available.

Line of Hand Tachometers Accurate Within 0.5%



O-Z hand tachometer has sealed rotating gear case. (O. Zernickow)

A line of improved hand tachometers, covering speed ranges of from 30 to 48,000 rpm., and from 15 to 24,000 ft. per min., have been announced by O. Zernickow Co., 15 Park Row, New York. Said to be accurate within 0.5%, the new tachometers are reportedly dampened to a degree heretofore unattained, to be constructed ruggedly enough to stand hard usage, and to be unaffected by outside influences, such as electricity, magnetism, moisture, or changes in temperature.

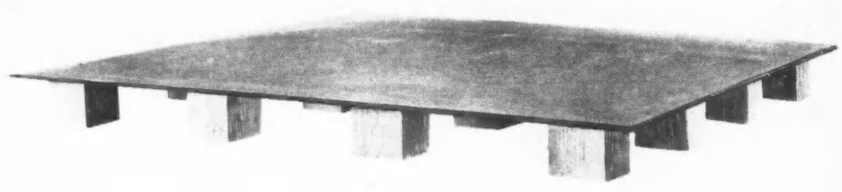
Balance is said to be such that equal accuracy is obtained in any position. A sealed, dustproof rotating gear case is designed to eliminate all shifting troubles.

High-Pressure Grease Gun Holds 30 lb. Lubricant

A new high-pressure grease gun, known as "Porto-Pak", announced by Lincoln Engineering Co., St. Louis, Mo., is of all-steel construction and holds 30 lb. of lubricant. Porto-Pak features a positive, automatic venting device in the pump-tube assembly which operates instantly when the pump handle is raised momentarily to topmost position. This is said to relieve pressure in the hose assembly, permitting lubricant to drain back into container, saving lubricant and eliminating dripping when coupler is disengaged from the grease fitting. The venting device is said to be wear-proof, having no moving parts or springs.

Features of the Porto-Pak are reported to be: Ease of operation; quickly refillable through full-open top, which is easily removed by loosening two thumbnut fasteners; convenient to carry using sturdy handle.

High-pressure grease gun holds 30 lb. lubricant. (Lincoln)



Expendable pallet consists of double-corrugated board top supported by wood blocks (Techtmann)

Double-Cylinder Machine Knits Wide Range of Hose

A new model double-cylinder circular hosiery knitting machine, announced by Wildt & Co., Ltd., Leistershire, England, and designated "Autoswift" Model B, is built in cylinder diameters from 2¾ in., to 4½ in. It is designed to produce automatically half hose with welt,

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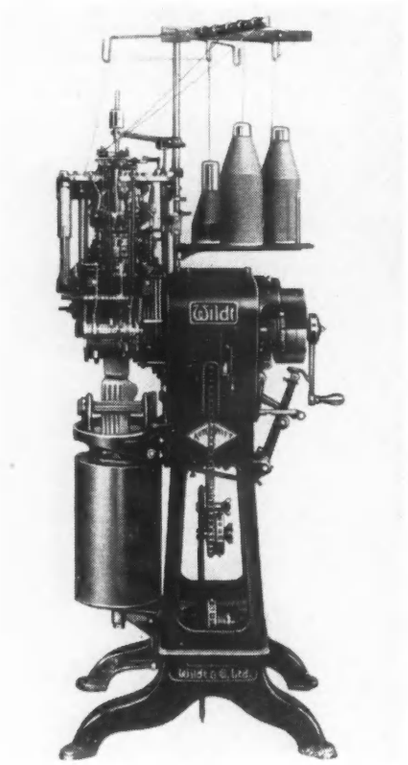


Double-cylinder machine knits wide range of hose. (Wildt)

rib top, broad- or single-rib and plain-foot bottom, and to produce children's socks and anklets, boys ¾ hose, ladies hosiery, and men's sports hose.

A feature of the Model B is the "press-off" drawthread mechanism for casting off the bottom-cylinder stitches, leaving extended loops of the ground yarn as a drawthread which can be withdrawn to produce a clean-selvage welt. Another feature is the "pouch equalizer," a tension-control device designed to aid in the knitting of heel and toe pouches by preventing tucking in the 1x1 rib.

Stitch control is effected by means of 2 levers located on the front of the machine.

A series of splicing, special feed, and striping attachments are available.

Speed of the Model B ranges from 160 to 190 rpm., depending on gage; ¼ hp. is required for the drive.

Mobile Brazing Units Can Be Carried to Job

Two new portable electric brazers, one of 10-KVA capacity and the other of 20-KVA capacity, have been announced by Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa.

Both brazers operate on 220- or 440-volt A.C. power. Other common features of the two machines are: Clamp-type bushing for primary cable, foot switch for brazing circuit, voltage-changing plugs, air-cooled transformer. The 10-KVA brazer has air-cooled tongs and uses natural draft for cooling the transformer. It is enclosed in a sheet-metal case, mounted on casters, and weighs 100 lb.

The 20-KVA brazer has water-cooled tongs, uses induced-draft transformer cooling, and is 24 in. in diameter.

F.N.F. Knitting Machine To Be Widely Shown

The new 84-in. warp knitting machine which operates at 1,000 courses per minute, developed during the war by F.N.F. Ltd., Burton-on-Trent, Staffordshire, England, and previously described in TEXTILE WORLD (February, 1945), is now in production at the rate of one machine every two weeks, with plans for increasing this by 1948 to an annual production of 800 machines. Said to effect a substantial reduction in the cost of producing warp knitting fabrics and to make possible the warp knitting of fabrics previously produced by other methods, the new machine is reported to be simple in operation.

Full operating demonstrations in leading cities are planned as follows: Montreal or Cornwall, Sept. 2 to 14, 1946; New York, Oct. 10 to Nov. 22, 1946; Melbourne, Nov. 1 to Dec. 1, 1946; Paris, Jan. 1 to Feb. 15, 1947; Rio de Janiero, Jan. 15 to Feb. 15, 1947; Bombay, Feb. 17 to Mar. 17, 1947; Buenos Aires, Mar. 6 to Apr. 6, 1947; Cairo, Apr. 15 to May 15, 1947.

Sectional Warp Stop Motion Attaches to Warper Creel

A new sectional warp stop motion for high-speed warper creels has been announced by Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia 32, Pa. It is designed in two styles for present warper creels.

The stop motions are small sections of insulated rod similar to that used on loom stop motions, each rod being supported by individual hangers easily adapted for the creel frame. Warper drop wires have hard chrome-plated eyelets which are said to be easy on the yarn and to resist undue wear.

The device takes care of yarn breakage from the come up to the motion, it is stated, as well as between the warper creel and warper head. Its installation is said to be so simple that it can be installed by any practical mill man. All parts are reported to be rust protected.

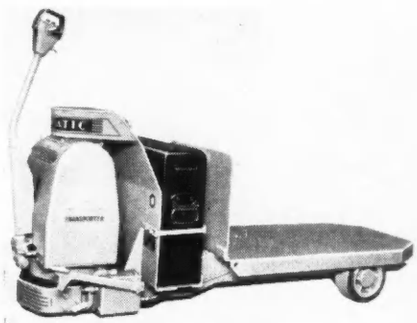
It is also claimed that this equipment can be permanently affixed, where desired.

The fact that it is in full view of the operator at all times, and can be quickly and easily cleaned, are additional advantages claimed by the manufacturer.

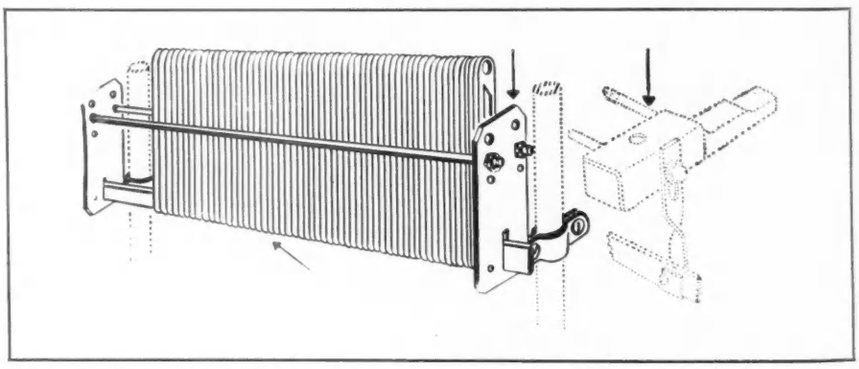
Electric Hand Truck Has 2-Speed Lift Pump

A new model "Transporter" electric-propelled hand truck, has just been announced by Automatic Transportation Company, 149 West 87th Street, Chi-

(Continued on page 232)



New model Transporter has combination of high-speed and low-speed cylinders in hydraulic lift pump. (Automatic Transportation)



Warp stop motion uses drop wires with chrome-plated eyelets. (Steel Heddle)

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Dyes & Chemicals — PRODUCTS & PROCESSES

Four New Chemicals

Four new chemicals, Cerfak F.C., Houghto-Wax, Surfax S, and Softex A.P., have been announced by E. F. Houghton & Co., Philadelphia.

Cerfak F.C., a synthetic detergent, is a sulphonated fatty condensate supplied in dry-flake form and readily soluble in water at all temperatures. Its action is unaffected by hardness or softness of water and it has good sudsing properties, it is reported. In chlorine bleaching, it is said to hold suds well and to have no retarding effect on the bleach. Cerfak F.C. provides good penetration, level dyeing, and a soft finish when used in finishing hosiery, it is said, and its freedom from stickiness makes boarding easier.

Houghto-Wax, for use in sizing cotton warps, is said to permit lower concentration of starch in the size bath and to give a stronger warp, a smoother warp with better fiber lay, with no loss of elasticity.

Surfax S, a wetting agent which serves as a combined softener and sanforizing agent, is a combination of saponifiable and unsaponifiable oils soluble in water in all proportions. It is reported to be particularly applicable to heavy cotton fabrics and to knitted fabrics. Surfax S is compatible with all ordinary finishing materials, is non-oxidizing, and may be used in any bath having a pH above 7, it is said.

Softex A.P., a cationic softener, is a soft jelly-like paste soluble in water and having a pH working range of 3 to 8. It is said to be particularly applicable in solutions containing acid and neutral salts.

Yarn Lubricants Aid Knitting and Sewing

Two new synthetic lubricants, Avcodisk and Avcosew, for treating yarns and sewing threads, have been announced by American Viscose Corp., New York.

Avcodisk, a synthetic wax for lubricating all types of yarns where softening and anti-static properties are required, is said to effect more uniform stitch formation, better recoverability, and greater softness in knitted fabrics.

Avcosew, a new range of synthetic lubricants to be used for treating sewing thread, can be applied by any of the various methods such as solvent, water emulsion, disc, and hot melt, and reportedly have produced excellent sewability where high-speed sewing is required.

Atlas Powder Company will manufacture and sell these two products.

Detergent Effective on Wool

DIANOL G: Quaker Chemical Products Corp., Conshohocken, Pa.

A new liquid detergent and wetting agent, Dianol G, has been announced by Quaker Chemical Products Corp. When used with alkali builders, such as tetra-sodium pyrophosphate, Dianol G is said to be an efficient synthetic detergent for use on all fabrics. It is reported to scour wool fabrics, without builders, at a pH of about 9.0, and to rinse from all fabrics with ease and no residual odor.

Dianol G, is said to dissolve in cold water, to be stable in hard water and in acidic or alkaline solutions of conventionally used concentrations, and not to promote foaming.

Plasticizers for Coating Fabrics

EMULSION G-25 AND PARAPLEX G-40; Resinous Products & Chemical Co., Philadelphia.

A new resin emulsion, Emulsion G-25, for use in plasticizing Buna N films and polyvinyl chloride latices has been announced by Resinous Products & Chemical Co. It is an aqueous dispersion of Paraplex G-25 and is said to be characterized by non-migration, permanence, resistance to heat and hot oil, and by flexibility at low temperatures. It can be pigmented to give coated fabrics a variety of colors. Emul-

(*Continued on page 232*)

Mill Maintenance — TO KEEP 'EM RUNNING

Chain Drives Need Frequent Attention

A periodic check of the alignment of shafts and sprockets is an important part of the maintenance of chain drives. Improper alignment not only causes undue wear of drive parts, but it also interferes with the efficiency of the driving power.

Shafts should be perfectly parallel. Their parallelism can be tested with a bead level and by measuring their distances apart at each end. In case the shafts extend away from each other, with only an end of each overlapping, place a flat piece of wood or metal between the overlapping ends and make certain that the shafts form 90° angles with the wood or metal by checking with a T-square.

Sprockets can be placed in line by sighting with a straight edge or a string. The sprockets should be held firmly in place on the shafts.

Correct chain tension can be judged by sight. Considerable variation of tension is permissible, and the amount of slack in the chain is not of importance so long as the chain drives smoothly. When checking the chain, see that it is wearing only in the joints. Wear at either side of the links indicates that the shafts or sprockets are out of line, and the condition should be corrected at once.

The chain and sprockets should be cleaned as needed. Such applications as the flat-brush drive on a card will require frequent cleaning to prevent lint accumulations.

The drive should be oiled sufficiently with a light oil, so that all parts of the drive has a thin film of lubricant at all times. If the used oil on the drive is black, the lubricant and the frequency of application are satisfactory. If the oil has a reddish brown color, rust is present in the drive, and the cause of it should be investigated.

A WARP SIZING STARCH THAT STOPPED A TEXTILE *Blizzard*

ARROW GUM, **a specially prepared warp sizing for spun rayon, effectively reduces shedding on the slashers and looms. This reduced shedding is accomplished by ARROW GUM'S high adhesiveness and strong, flexible film which securely anchor loose surface fibers.**

— and reduced shedding, in turn, increases operating efficiency. How? By firmly adhering the individual fibers over the greater part of their length — by means of ARROW GUM'S high penetrating adhesiveness — which increases the tensile strength of the yarn . . . makes it more elastic, flexible . . . prevents production time-loss due to breakage on the looms.

— and reduced shedding also increases fabric quality. How? By maintaining a proper fiber blend-balance in the yarn during weaving — by means of ARROW GUM'S efficient coating properties — which assures finished fabrics with the appearance and handle of expensive worsteds.

Ask for a trial ARROW GUM demonstration — NOW. A National technician can run off a few beams without upsetting your regular production.

National also produces: FIBERTEX for textile finishing; AMBERTEX, a heavy-bodied thickener for white discharge, direct and vat color printing; KOVAT, a cold water swelling gum for all textile printing; FLOJEL, uniform, thin boiling corn starches in all standard fluidities; HOOSIER Pearl Cornstarch.

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STARCH PRODUCTS

STARCHES — AND SPECIALTIES WITH EASILY DEMONSTRATED SUPERIORITY

Kinks AND SHORT-CUTS

A $25 SAVINGS BOND FOR YOUR IDEA

A $25 Savings Bond will be awarded each month for the most useful "kink" published in this department. This contest is open to all readers of TEXTILE WORLD, and there is no limit to the number of entries any one person may make.

Contributions must be received not later than the last day of the month to be eligible for the award for the second succeeding month. Items may pertain to production methods, mill engineering, safety, cutting costs, improving quality, speeding up production, in brief any little device, stunt, kink, or shot-cut which you have tried out in your own mill and which you believe will be helpful to other mill men. Items should contain sufficient detail to permit other mill men to utilize the ideas in their own operations. Previously published material is not eligible, for the award. Judges of the contest are the editors of TEXTILE WORLD.

TEXTILE WORLD shall have the right to publish any items submitted. Items which are accepted will be paid for at our regular rate for this type of matter with one extra payment for appropriate sketches or photographs. The sketch you submit need not be a finished drawing.

In writing to this department, give your real name and address as evidence of good faith and to permit payment for items accepted. Please advise whether your name may be used with the kink.

Contributions should be addressed to: Technical Editor, TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y.

★ **SAVINGS BOND PRIZE FOR JULY**

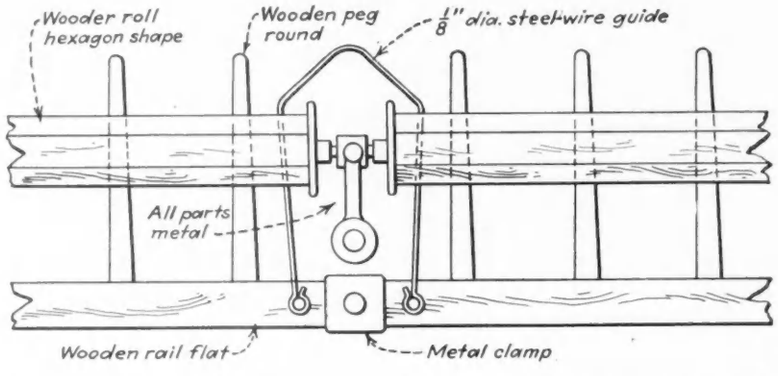
(May Contest)

Wire Guide Protects Lifting-Roll Journal

Before installing guards over the lifting-roll bearings on our long-draft roving frames, we had a great deal of trouble with damaged bearings and journals caused by sliver falling onto the journal and twisting around the lifting-roll shaft. The sliver on each side of the bearing frequently slid off the lifting roll; and if the extra pull on the sliver caused the sliver to break, there was nothing to prevent its forming a choke against the side of the bearing. Often such a choke would break the journal which held the bearing and rod in place.

We made guards from $\frac{1}{8}$-in. steel wire by bending the wire in the shape shown in the accompanying sketch. The ends of the wire were fastened with screws to the wooden sliver-guide rail at the back of the roller beam, and the guard extended outward toward the drawing cans to a point beneath and well past the lifting roll.

Since installing these guards, we have had no trouble with lifting rods choking. If an end of sliver is lifted over the wooden guide, the wire guard keeps the sliver from sliding onto the rod at the journal. *(K-511)*
T. S. Kinard, Columbus, Ga.



The guard, made of $\frac{1}{8}$-in. steel wire, prevents sliver from wrapping around the lifting-roll rod.

Continuous Process Eliminates Card Doffing

Doffing of cotton cards was eliminated by a method of continuous processing involving cards and a lap winder in the experimental laboratory of Marzoli & Co., Italy, according to reports of the U. S. textile teams sent to that country.

Two rows of eight cards each were set up on the mill floor, forming an alley on which the delivery ends of the cards face. The special lap winder was located about ten feet from the end of the alley with its centerline coinciding with the extended centerline of the alley and its delivery end away from the cards. Two shafts ran back from the lap winder, one along each side of the alley and close to the floor. Close to these shafts and parallel to them were two covered, polished brass troughs, one for each row of cards. The doffers of the two rows of cards

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THE PLASTIC COATED YARN

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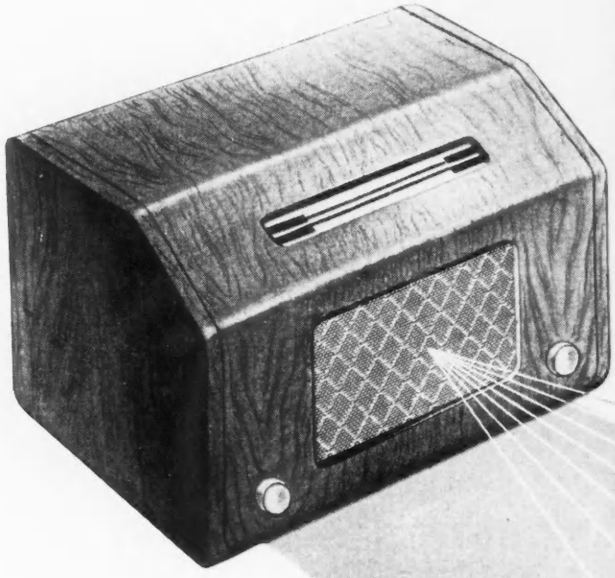
adds Beauty and Utility to Radios



Modern minded radio manufacturers are using radio grills woven of PLEXON...not just because they are so colorful and attractive, but because housewives can clean grills made of this amazing plastic coated yarn so easily, with just a whisk of a damp cloth!

In field after field, PLEXON comes, sees and conquers. What can PLEXON do for you?

Write us for detailed information about PLEXON, and possible ways for you to use it in your business.

PLEXON, INC.

Plant: Greenville, South Carolina

Offices: 212 Fifth Avenue
New York City 10, N. Y.

KINKS & SHORT-CUTS

(*Continued from page 164*)

were driven by the two floor shafts. There were no coilers on the cards. The sliver came down from the calender rolls through a guide and into the brass trough, and was advanced along the troughs by pairs of iron rolls located transversely in the troughs at each card. These rolls were driven from the floor shafts. When a card was not operating, a can of sliver from the drawing was set on the floor and fed in through the trough opening to take the place of the card sliver.

The two sets of eight slivers each passed over brass turning plates behind the lap winder and entered the winder as a sheet of sixteen slivers. *(K-518)*

Stored Knitting Yarn Protected by Shades

In our knitting room, it is necessary to store special yarns in bins until the yarns are needed by the machines knitting fabrics with certain decorative effects. In order to keep the yarn clean during long periods of storage, we built bins totally inclosed except on one side. On this side, we used a curtain made of cloth to keep out dust, lint, etc.

The cloth curtain became dirty, was torn, or was used by the operators for wiping their hands. Some time ago we installed regular window shades in place of the cloth curtains, and we are finding them more satisfactory. They can be cleaned with a brush or compressed air, and the operators are more careful with them than they were with the old curtains. *(K-507)*

Proper Lacing of Belts Lengthens Belt Life

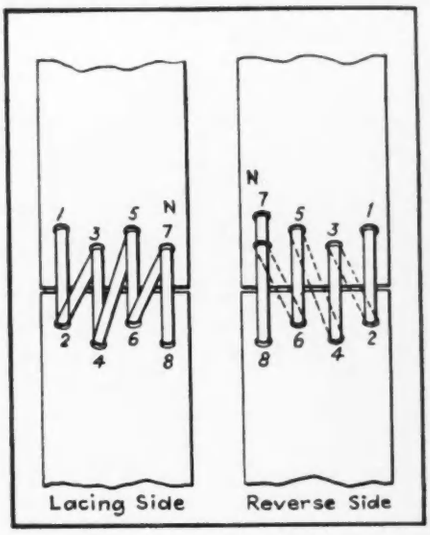
Improperly laced belts cause many costly delays. When cutting a belt preparatory to lacing it, the ends should be cut square. The best practice is to use a T-square and hold it firmly on the belt until the knife has cut halfway through the belt. The lace holes should be slightly smaller than the width of the lace, and the lace should be pulled through with uniform tension to prevent the belt from running untrue.

In our plant, we use the following specifications for lacing belts:

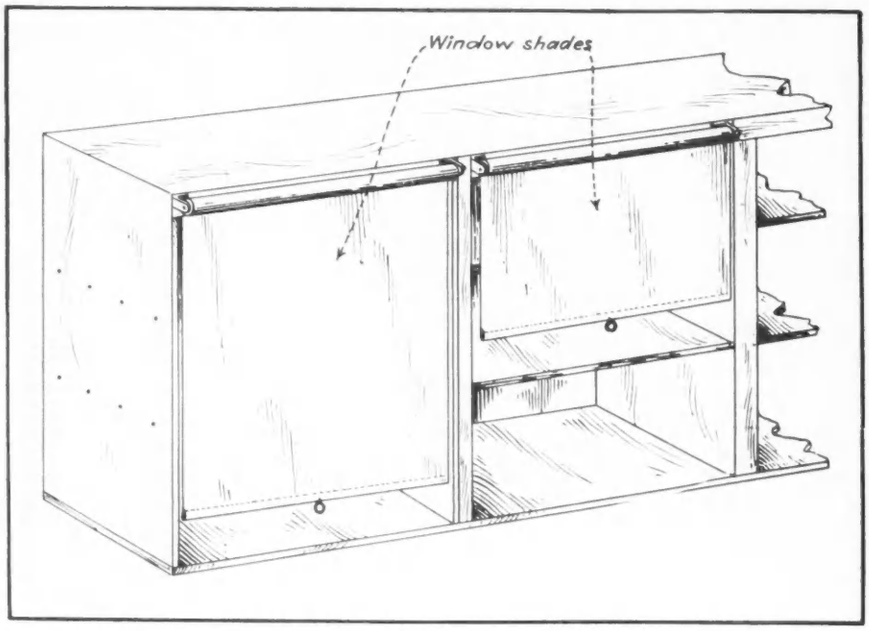
Belt Width (In.)	Lace Width (In.)	No. of Holes	Distance of Holes From End of Belt (In.)	
			First Row	Second Row
1–1 3/4	1/4	2–3	3/8	
2–2 1/2	5/16	3	3/8	7/8
2 3/4–3 1/2	5/16	4	1/2	1
3 1/2–5	3/8	5	5/8	1 1/8
6	7/16	6	3/4	1 1/4
7	7/16	7	3/4	1 1/4
8	1/2	8	7/8	1 3/8
10	1/2	10	1	1 3/4
12	1/2	12	1	1 3/4
14 or over	5/8	13	1	1 3/4

In laying out the holes to be punched, we use a pattern similar to the one shown in the accompanying sketch. After holding one end of the lace in an open flame for a minute or two to give it hardness to facilitate inserting it through the holes, we lace the belt according to the following pattern:

Down through 1, up through 2
(Repeat)
Down through 3, up through 4
Down through 5, up through 6
Down through 7, up through 8
(Repeat)
Down through 7
Punch final hole with an awl and fasten the lace at N. *(K-500)*



When lacing the belt, make certain that the lace does not twist but lies flat between each hole.



The shade can be raised when the operator is placing yarn in the bin or taking it out.

Vibrator Connectors Removed With Special Tool

Loomfixers on dobby looms often encounter trouble in disengaging vibrator connectors from jack backs. I designed a tool which is now being used by all the dobby loomfixers in our plant for lifting these connectors.

The tool consists of a stand which acts as a fulcrum for leverage, a handle for lifting, and a hook for engaging the underside of the vibrator connector.

The handle and stand are made of flat cast-iron or steel stock $\frac{3}{16}$ in. thick and 1 in. wide. The handle is 12 in. long. About 2 in. from one end of the handle, drill a $\frac{1}{2}$-in. hole for receiving the fulcrum pin of the stand; and $\frac{1}{2}$ in. from the same end, drill a $\frac{5}{16}$-in. hole for fastening the lifting hook.

The hook should be made of a $1\frac{13}{16}$-in. length of $\frac{1}{4}$-in. key steel. Bend $\frac{1}{2}$ in. of one end of the key steel to fit in the $\frac{5}{16}$-in. hole in the end of the handle. This length will allow enough of the key steel to protrude on the other side of the handle to permit drilling a cotter-key hole for securing the hook to the

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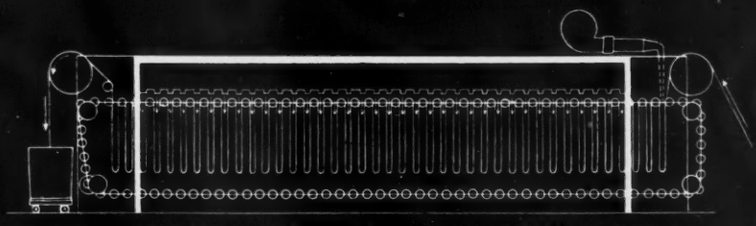
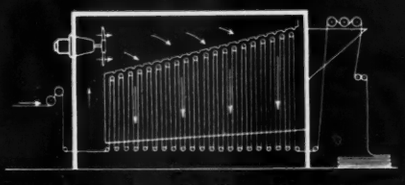


Proctor Loop-Curer, especially recommended for high capacities.



Proctor Roller-Curer, designed for moderate production requirements.

In curing resin treated fabrics, there is no room for guesswork. That's why each installation of Proctor equipment is engineered to meet the individual curing problem. Since successful curing is only accomplished by subjecting the cloth to the correct high temperature for the proper amount of time, it is impossible to place too much emphasis on the selection of equipment.

Absolutely uniform temperature is required throughout the entire machine for proper curing. Not only that, but proper circulation of heated air is a vital factor. It must be such that not only is the temperature uniformly maintained, but must provide for a proper relative exhaust of air from within the curing chamber.

All factors affecting temperatures, humidity and circulation must be carefully controlled. The time that goods are in the curer is another factor which must be controlled to the split second, if curing is to be properly accomplished.

During the past several months we have done considerable work in the designing and building of specialized machinery for use in curing resin treated fabrics. If you have a curing problem, write to us about it today. Our research men will consider your problem and then recommend a piece of equipment that will be engineered to your needs in every detail.

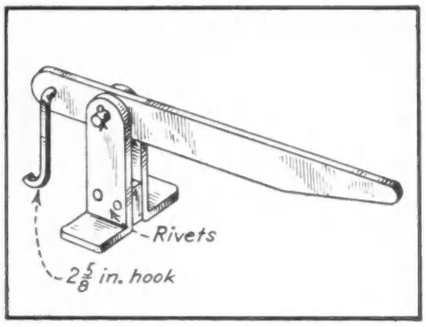
P&S

PROCTOR & SCHWARTZ, INC.

PHILADELPHIA 20, PA.

KINKS & SHORT-CUTS

(Continued from page 166)



Place the hook under the vibrator connector of a dobby loom and lower the handle. The 12-in. handle permits sufficient leverage to lift tight-fitting connectors.

handle. Round off the corners of the key so that the hook will turn easily in the handle. Turn a hook into the other end of the key at a right angle to the ½-in. bend. The length of the hook from the lower end to the point at which it enters the handle should be 1 5/16 in.

To make the stand, use two pieces of steel 4¼ in. long. Bend 1 in. of one end of each piece to form a 90° angle. The short ends serve as a base for the stand. Place the 3¼-in. sides upright, and rivet or bolt them together at the lower ends, with a ¼-in. spacer separating them.

At the upper ends, drill a ½-in. hole. Place the handle between the vertical members of the stand, and insert a fulcrum pin or bolt through both members of the stand and through the handle.

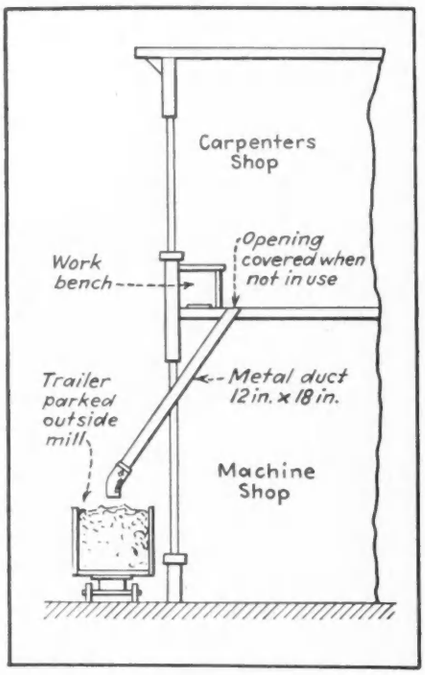
To lift a vibrator connector, rest the base of the stand on the backs of other vibrators or on the framework of the dobby. Raise the handle to lower the hook between the vibrator connectors. Engage the lower side of the connector to be removed with the hook, and lower the handle. *(K-512)*

Carpenter-Shop Waste Quickly Removed by Chute

The carpenter shop in our mill is located on the second floor. In the course of a day, there is quite an accumulation of sawdust, shavings, etc., which must be cleaned up to prevent leaving a fire hazard overnight.

For years we swept this waste into piles, put it in a box, and carried the box by hand down the stairs and to our dumping ground. Done in this manner, the job was a nuisance. We solved the problem by building a trailer and a chute.

The trailer was built on the chassis of an old truck. The chute was made in the form of a sheet-metal duct; and it extended from the carpenter shop, through the wall of the machine shop below, and dumped at a point directly above the trailer parked alongside the outside wall. A cover was made for the chute so that no opening in the floor was exposed except when the chute was being used. The clean-up man in the carpenter shop now pushes the waste long the floor to the mouth of the chute. This job requires only 30 min. per day, whereas the old method required 3 hr. per day. *(K-515) Richard Dilworth, Pawtucket, R. I.*



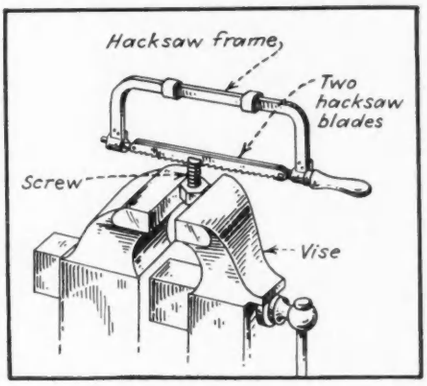
The sawdust and shavings in the trailer must be dumped once each week.

Very Short Fibers Spun From Creel Pots

A spinning frame for running very short-staple waste was observed in the experimental laboratory of Marzoli & Co., Italy, by a textile team sent to Italy by the U. S. government. The roving was made on woolen-system machinery; and when the jack spools were doffed, the roving was slipped off the end of the spools without unwinding. These cheeses of roving—somewhat similar to cakes of yarn—were placed in cylindrical metal pots at the spinning-frame creel.

The roving end was drawn from the inside of the cheese, over a guide, and down to the rolls of the spinning frame. The pots were rotated so that twist was inserted into the roving as it was drawn from the cheese. *(K-517)*

Two Blades Used to Cut Slot in Temple Screw

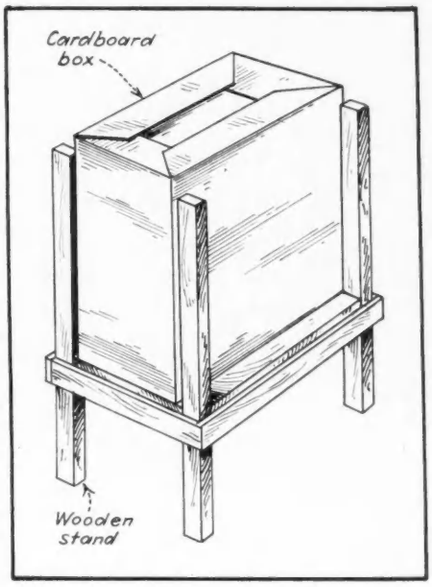


Temple-adjusting screws are generally of a special type; and when the slot in the head is damaged by a screwdriver slipping, the screw can be continued in use by cutting a new slot. When cutting the slot, place two blades in the hacksaw frame so that the slot will be wide enough. (K-505)

Storage Rack For Cones Aids Winder Operator

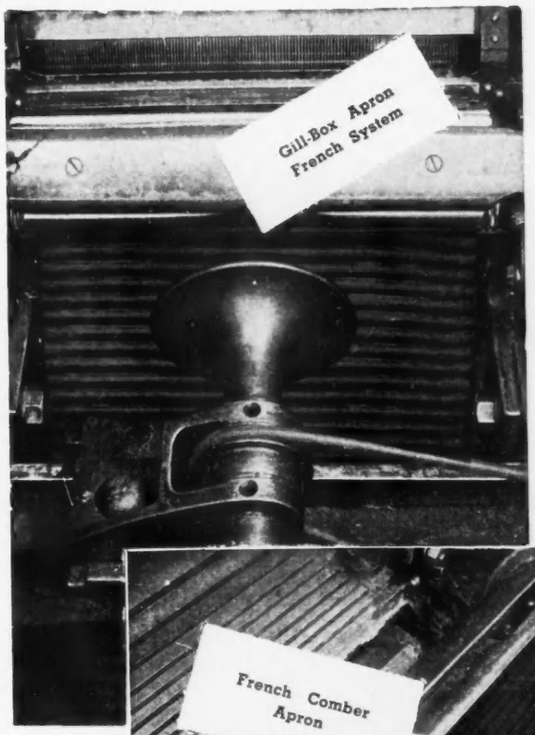
In our winding department, we had a good bit of trouble finding suitable storage space for tubes and cones. The cases containing the empty tubes and cones were placed on the floor near the winders; but often an opened case was overturned or crushed, and the cones or tubes were spilled on the floor.

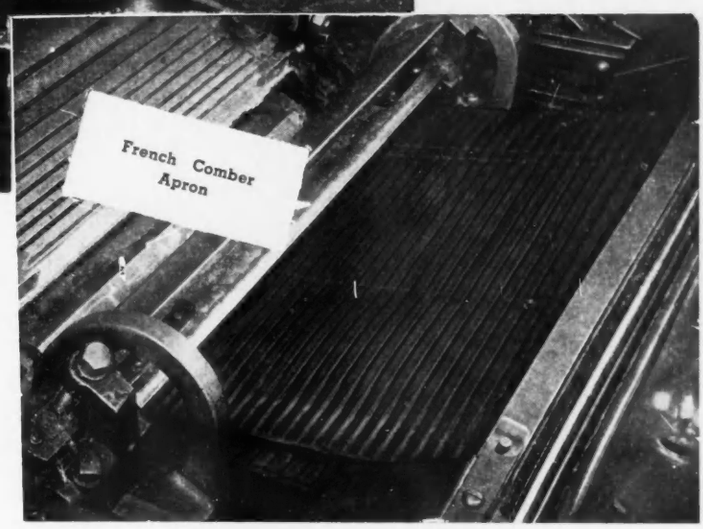
To eliminate the loss of time in collecting the spilled yarn holders and the waste of holders damaged in this manner, I had a rack made for each line of



The rack, placed conveniently for the winder operator, saves time and yarn holders and improves housekeeeping.

BARNES TANS ONLY THE RIGHT LEATHER *for* FRENCH COMB *and* GILL BOX APRONS





You can rely on BARNES, the TEXTILE leather house of long experience, to buy the right leather for use in your mill. We buy only the FINEST Foreign and Premium Domestic Steer Hides. For APRONS, we pay a cent or two extra to obtain hides free of grubs, barbed-wire scratches, slaughter cuts, and other imperfections which would prove inferior. We insist on hides taken from steers killed in the best months of the year, avoiding in particular the manure burns of the winter months. And in these hides we carefully select and cut the correct part for the particular needs of your combs and gill boxes. As in the case of wool, the selection and purchase of the right raw materials is only half of the story. The correct processing is the other half. In our own tannery we apply the particular tanning which our research and years of experience have proved provides long life and good service with maximum economy.

Even thickness throughout, Minimum stretch, Run straight. Strong flexible waterproof lap of even thickness overall.

•

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First-Quality Center Stock
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Where unusual knowledge of Leather is combined with long years of Textile experience
APRONS—BELTING • FLAT • ROUND • & ACCESSORIES—STRAPPING

KINKS & SHORT-CUTS

(Continued from page 168)

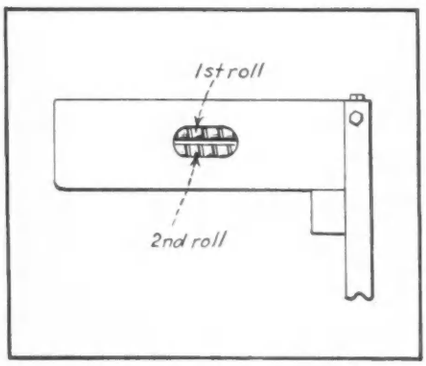
winders. When a case of cones or tubes is opened now, it is placed on the rack at such a height that the operator does not need to stoop to get the cones; and there is no danger of the cases being overturned or damaged by a box or truck being pushed against it.

The rack is made of ¾x2-in. wooden strips. Some additional strips across the rack form sufficient bottom to hold the cone cases. *(K-510) Kirby Wright, Edenton, N. C.*

Slot in Temple-Roll Cap Permits Easy Inspection

Inspecting temple rolls can be done more easily and quickly if a 1x½-in. slot is cut in the temple-roll cap directly over the space between the two temple rolls.

Remove the cap and drill two ½-in. holes approximately in the center of the cap. Round off the edges of the holes and complete the slot with a rat-tail file. *(K-506)*



Both temple rolls can be observed in operation through the slot cut in the cap.

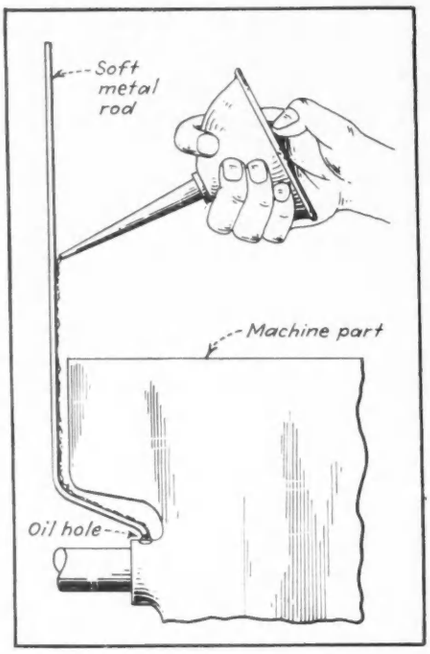
Lowering Yarn Outlet Aids Guide Adjustment

On some types of shuttles, the yarn guides often become loose after the shuttle has been in operation for a short while; and it is necessary to tighten the guide to prevent filling breakage. Tightening the screw which holds the guide in place forces the lower lip of the guide against the bottom edge of the outlet, causing a small crack to appear between the wood and the fiber cushion of the outlet. This crack will pinch the yarn, splitting off filaments or cutting the yarn completely.

I have tried filling the crack with sealing wax and with fur, but neither of these fillers was satisfactory.

The best way to repair a shuttle when the guide becomes loose is to remove the guide from the shuttle and cut the fiber in the outlet to the depth needed for tightening the yarn guide. Round out this cut and smooth the fiber with fine emery cloth. Insert the guide and tighten the screw. *(K-504) H. E. Wenrich, Berwick, Pa.*

Soft Wire Aids Oiling Hard-to-Reach Places



Nearly every machine requires lubrication at places which are hard for the oiler to reach. Curved oil-can spouts or flexible spouts are helpful for oiling many of these points, but one of the simplest methods is to use a piece of wire similar to the one shown in the sketch.

A piece of soft wire—such as solder metal—is bent to the required shape, and the oil is applied to the upper end of the wire. The oil will flow down the wire and drip off the lower end into the oil hole. (K-497) L. Kasper, Philadelphia, Pa.

Fiber Bearings Used For Slasher Dip Roll

We have experienced a considerable amount of trouble with ball bearings on the ends of the dip rolls in our slasher size boxes, primarily because of the size getting into the bearings and clogging them. We tried some homemade fiber bearings, and found that the solved our problem.

We cut the fiber bearings the same size as the ball bearings and installed them on three Cocker slashers. We have used no other kind since trying them. *(K-458)*

Piece of Cardboard Aids in Holding Cake

Operators winding yarn from cakes often find that the cake holders do not keep the cakes firmly in place. Broken ends are frequently a result of this cause.

When we have a cake of yarn that is not held properly in place, we cut a 1-in. ring of cardbard from the bottom of a regular yarn cone and place the ring over the cake holder. The cardboard holds the cake in place. *(K-501)*

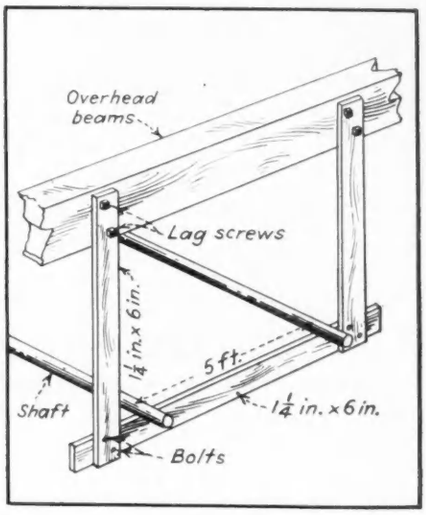
Shaft Over Looms Moved Without Lifting

Recently we had to move an overhead drive shaft in our weave room, with all the looms in place. The shaft was $2\frac{7}{16}$ in. in diameter and 250 ft. long, and the length was divided into 40-ft. sections. The shaft had to be moved a distance of 5 ft., and the job had to be accomplished during a week-end shut down.

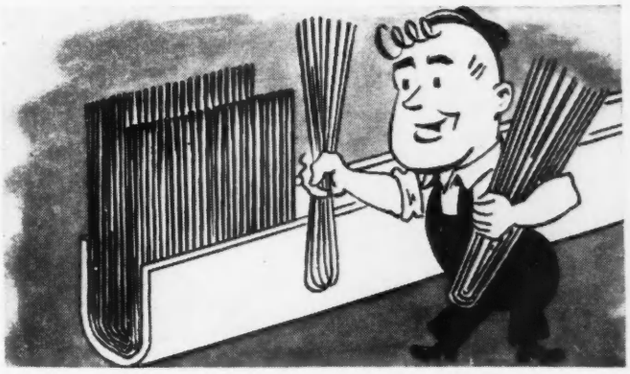
We made a dozen wooden frames of the dimensions shown in the sketch and placed them along a 40-ft. section of the shaft. The frames were secured to the overhead beams.

We placed each wooden frame so that the shaft was at one end of it and disconnected the section of shaft. After removing the hanger screws, we rolled the shaft section over to the other end of the frame. We then secured the shaft in the desired place with the hanger screws.

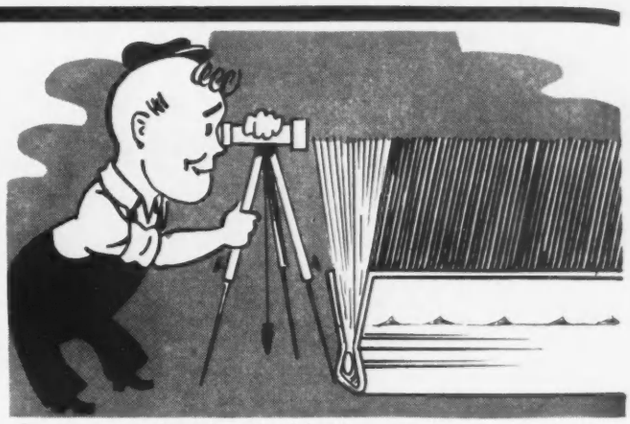
The wooden frames were then removed from the beams and moved to the next section of the shaft. *(K-516)*



By using wooden frames and rolling the shaft, each section of the shaft was moved without any lifting.



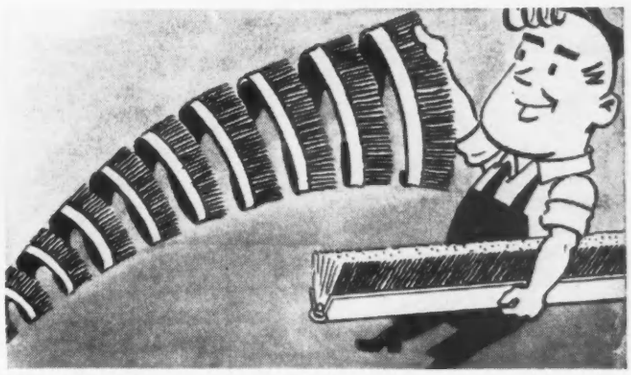
The correct filler material to do **your** job most efficiently is used. There are literally hundreds of mixtures of natural and synthetic fibers from which to select.



Correct and uniform length of brush material and a gapless, unbroken formation of uniform density throughout the length of the strip assure uniform brushing action.

WHY FULLER-GRIPT *means Better* BRUSHING ACTION

Brush material is rigidly held. The metal backing clinches the material under a plated steel wire, holding it in a viselike grip.



Fuller-Gript Brushes are versatile. They can be wound on cores from ¼" to 3' in diameter, spiraled, bent to any desired shape, or laid in straight strips.

★ ★ ★

Fuller-Gript Brushes are manufactured to close tolerances. Width of the steel back varies from 5/10" up to 1¼", making possible a great variation in the amount of material in a given length of strip. When it is time to replace, the new Fuller-Gript strips will be exact duplicates of the old ones in size and performance. They can be installed in most cases by your own men, often without tearing down the machine.

Let our engineers help you apply Fuller-Gript Brushes to your equipment. If you'd like a sample Fuller-Gript strip, just drop us a line.

Fuller Gript

BUILT-TO-ORDER BRUSHES FOR YOUR EQUIPMENT

THE FULLER BRUSH COMPANY
INDUSTRIAL DIVISION
3594 FULLER PARK, HARTFORD 2, CONNECTICUT

THIS IS NO. 58 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

DEVELOPMENTS IN NYLON SIZING AND CONING

Mill experience has brought out the desirability of several changes in the procedure of handling nylon in preparation for pineapple coning.

It has been found that steaming *after* sizing has a tendency to soften the size and cause the coils of yarn to stick together. For this reason, most throwing mills have discontinued steaming *after* sizing and have instead increased the period of steaming after twisting and before sizing from 1½ to 2½ hours. Some mills report steaming as long as 3 hours.

The lagging time in the sizing area has also been changed. Instead of periods of 12 to 24 hours previously recommended, lagging from 16 to 20 hours now seems to be the general practice, with temperature in the sizing room at 84° and the relative humidity at 50%.

In the coning area, also, more lagging time may be required, for faults in winding have been traced to a too short lagging period. For an 8-ounce package, 12 to 16 hours are allowed for lagging, instead of limiting the period to 12 hours. Temperature is maintained at 76° and humidity at 70%.

In the earlier installations of the No. 50 Coning Machine for pineapple coning of nylon, the use of a 5-ounce Differential Pressure Weight was recommended. It is now considered that more satisfactory results are obtained by using 10-ounce and 5-ounce Weights together, making a total of 15 ounces and providing a pressure of 30-35 ounces at the start of winding.

CONTROLLING TENSION ON THE ROTO-CONER*

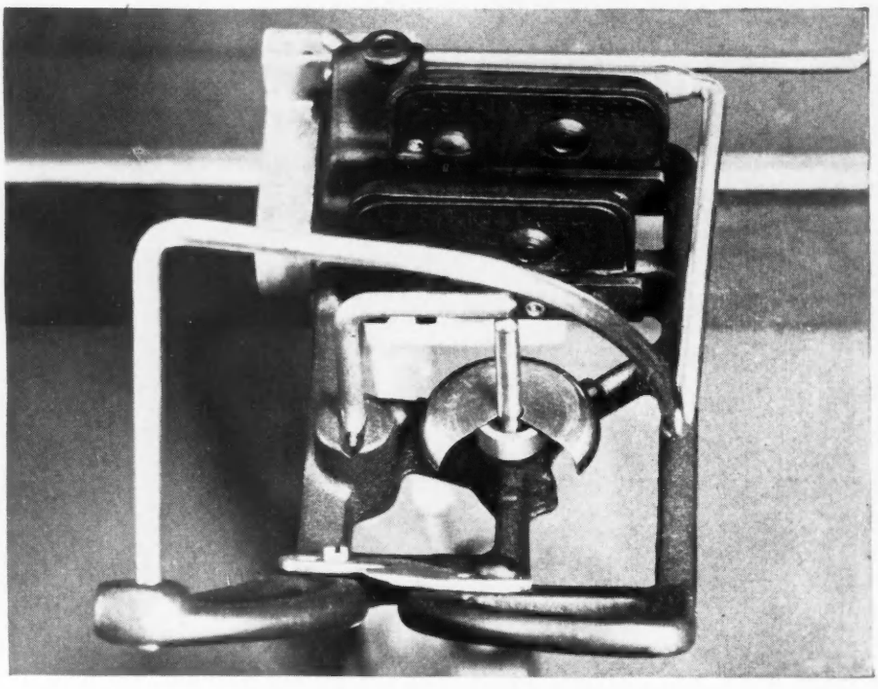
While the tension *weights* govern the *amount* of applied tension on the yarn, it is the behavior of the *discs* that governs the *evenness* of the tension. And the control exerted by the discs is provided primarily by the lower disc, for if the lower disc is in control, the upper disc has to be in control.

Both discs should be free to turn constantly, so that wear on the discs will be evenly distributed and there will be no chance for lint to collect between the discs causing the upper disc to lift, with resultant loss of tension.

However, in most cases, it is not desirable to have the discs spin too rapidly, because in the event an end breaks, the yarn is inclined to tangle between the discs. Even while running, the yarn might be thrown out from between the discs. (Occasionally it is necessary to have both discs turn rapidly in order to throw out trash and lint, as when winding yarn containing a large number of seeds, or when cones of coarse yarn are used as a supply and there is not the benefit of frequent bobbin changes to permit cleaning the discs. In general, however, the lower disc should turn slowly.)

The cast-iron Tension Bracket on the Roto-Coner* has several means of controlling the lower disc. The Tension Disc Collar (44-475-2) is used when winding a very fine yarn. Placed under the lower disc with the flat side of the disc up, it will help the disc to turn even when tension is at a minimum. Placing the disc cupped side up reduces the tendency to turn, and without the Collar the freedom of movement is even further reduced. It is not necessary to use the Collar when winding coarse yarns with a large amount of applied tension.

Control of turning may also be obtained by setting the Guide Plate (44-109) more to the right for faster turning, or to the left for slower turning. (This part is 44-109-2 on Paraffin and Double Disc Tension Assemblies.)



No. 44 Tension Bracket with lower disc cut away to show Tension Disc Collar.

*Reg. U. S. Pat. Off. July 1946

See our Catalog in TEXTILE WORLD YEARBOOK 23.6-1

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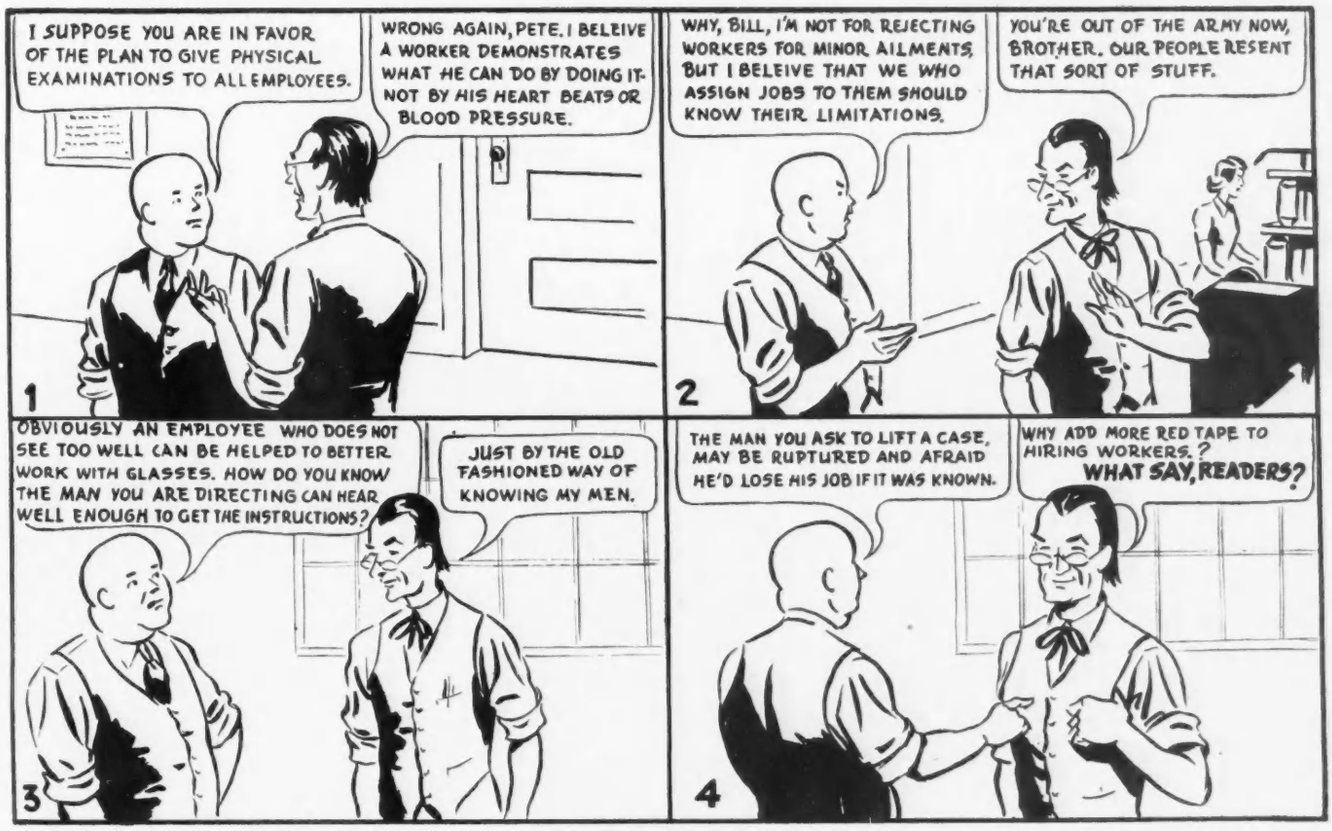
LETTERS to Pete & Bill, discussing material in this department, are paid for when published. Suggestions for the Pete & Bill dialogue will also be paid for if used. If these pages interest you, contribute something to interest others. Address PETE & BILL, Textile World, 330 West 42nd St., New York 18, N. Y.

Pete & Bill

PHYSICAL EXAMS FOR WORKERS

Should mills institute physical examinations for employees, and, if so, how should the data be utilized?


I SUPPOSE YOU ARE IN FAVOR OF THE PLAN TO GIVE PHYSICAL EXAMINATIONS TO ALL EMPLOYEES.
WRONG AGAIN, PETE. I BELEIVE A WORKER DEMONSTRATES WHAT HE CAN DO BY DOING IT- NOT BY HIS HEART BEATS OR BLOOD PRESSURE.
1
WHY, BILL, I'M NOT FOR REJECTING WORKERS FOR MINOR AILMENTS, BUT I BELEIVE THAT WE WHO ASSIGN JOBS TO THEM SHOULD KNOW THEIR LIMITATIONS.
YOU'RE OUT OF THE ARMY NOW, BROTHER. OUR PEOPLE RESENT THAT SORT OF STUFF.
2
OBVIOUSLY AN EMPLOYEE WHO DOES NOT SEE TOO WELL CAN BE HELPED TO BETTER WORK WITH GLASSES. HOW DO YOU KNOW THE MAN YOU ARE DIRECTING CAN HEAR WELL ENOUGH TO GET THE INSTRUCTIONS?
JUST BY THE OLD FASHIONED WAY OF KNOWING MY MEN.
3
THE MAN YOU ASK TO LIFT A CASE, MAY BE RUPTURED AND AFRAID HE'D LOSE HIS JOB IF IT WAS KNOWN.
WHY ADD MORE RED TAPE TO HIRING WORKERS.? WHAT SAY, READERS?
4

Letters From Readers

Wants Rest Periods for All

"Rest Periods and Production"
(Pete & Bill, April 1946)

Dear Pete & Bill:

Mid-shift rest periods should be a positive must on everyone's production schedule. It builds up more goodwill between labor and management, and work fatigue is dismissed for the majority of the employees.

There are several types of jobs that allow relaxation without much loss in production, yet it would be detrimental to management's cause were it to refuse a "break period" for the men on these jobs where other departments were favored with a rest.

Stability depends upon equal rights and equal treatment for all. A little foresight and pains-taking on the part of management can be a vital factor in the successful operation of any mill. (PB702)

Avoid Kinfolk in Department!

"Supervisors' Kinfolk"
(Pete & Bill, May 1946)

Dear Pete & Bill:

The supervisor who has relatives working under him is always likely to try to push him or her ahead. The rest of the department will, naturally, have it against said supervisor, and dislike the worker because of the airs he puts on. Other workers become resentful and that whole department will be upset and the quality of work will be affected.

Another important factor is seniority against favoritism. If there is a promotion in line for some worker, the supervisor will pass this on to his relative even if there is someone more capable of doing the job who has been there longer. It is just a natural instinct for a supervisor to do this so that there will be no hard feelings in the family. But, then the hard feelings come in by leaps and bounds via supervisor vs. non-relatives.

Supervisors' kinfolk should not be employed in the same department inas-

much as it is likely to cause bitter instead of better relationship between labor and management. (PB701)

Put the Relatives in Other Departments

"Supervisors' Kinfolk"
(Pete & Bill, May 1946)

Dear Pete & Bill:

Any person who is a good worker is a desirable employee, and a lot can be undergone to keep him or her working in a department, even if he is a bellyacher, unsociable, etc. However, to be a relative, by blood or marriage, is just something that cannot be tolerated in any department if management expects to keep good relations.

I recall an experience with a man with a host of sons, who wanted to bring them into the department where he was a second-hand, which had been allowed previous to my going into the department. I had to move either him or his boys into another similar department. There was some resentment at first, but they finally realized the justice of it and matters cleared up.

Yes, work those good employees, but put them in departments or on other shifts away from their relatives. (PB703)

Systematize Visiting Between Departments

"The Wandering Employee"
(Pete & Bill, Oct. 1945)

Dear Pete & Bill:

Interdepartmental visiting should be discouraged as it distracts operators, may cause accidents, and loses time and money for operators and company.

However, there are times when visits are necessary. For this, provision should be made. The employment office (or any designated office) should provide a place with the following system:

1. A pass should be issued by the foreman to the operator who wishes to speak to an operator in a different department.
2. The operator takes signed pass to "meeting" office.
3. The person in charge of "meeting" office telephones to foreman to issue a pass to the person who is wanted.
4. The operators should be permitted to discuss their matter privately.
5. At end of meeting, the person in charge should return the passes to the operators with the time of the meeting's starting and ending indicated. Operators return to their work and give passes back to their respective foremen. (PB705)

Japan Has One-Fifth Prewar Cotton-Textile Capacity

REPORT OF TEXTILE MISSION TO JAPAN, January-March, 1946; Department of State, Washington, D. C.

The report of the American Textile Mission to Japan is available in a limited number of copies in mimeographed form from the Department of State, Washington, D. C. It presents a wealth of data on the past and present of Japan's textile industry collected by the mission, the members of which included Harry L. Bailey, retired, formerly of Wellington Sears Co.; H. Wickliffe Rose, of American Viscose Corp.; and Frank E. Rowe, of Riverside & Dan River Cotton Mills, in addition to two government representatives and four observers from China, India, and the United Kingdom.

The outstanding fact which the mission reveals is that Japan's textile industry now has one-fifth of its prewar cotton-textile capacity and one-third of its prewar rayon capacity.

The installed spindleage of the Japanese cotton-textile industry in February, 1946, was 2,150,000, of which 1,115,000 were operable. It is estimated that by the return of stored equipment and repair of damaged machinery, this installed spindleage will increase by January, 1947, to 3,285,000, of which an estimated 2,990,000 will be operable. Beyond this data, an additional 235,000 spindles may be added through further repairs. Installed spindles at their prewar high went over 12,000,000.

The Mission is satisfied that the maximum output in 1946 from workable spindles is sufficient to take care of the 225,000 short tons of cotton to be imported. Looms at present operable total about 127,383; installed looms, doubtless, would add another 30,000 to this figure. The recent high in installed looms appears in 1941 with about 475,000.

Japan's current potential capacity for rayon production is 354,000,000 lb. annually, of which 306,000,000 represents machinery in place. Of this total, 120,000,000 lb. represents continuous filament and 234,000,000 rayon staple. The present shortages of raw materials have reduced the actual output of the industry to about 13,000,000 lb. a year. About 118,000,000 lb. of rayon staple is the maximum which could be spun on all existing worsted, woolen, and silk spindles, together with those cotton spindles in the hands of the rayon companies. For production beyond these 118,000,000 lb., there is possibility of export.

Woolen and worsted manufacturers in Japan have estimated that they could produce about 25,000,000 lb. of woolen yarn and 35,000,000 lb. of worsted yarn in the next twelve months if raw materials are made available. The Mission did not find direct evidence of undue clothing shortage in comparison with other countries.

Japan's four major textile-machinery manufacturers, which account for approximately 75 to 85% of new machinery production, have the capacity to increase Japan's spindleage and loomage in 1946 by 290,000 and 11,300, respectively. In 1947 they will be able to produce over 785,000 spindles and 16,800 looms. The peacetime reconversion of Japan's textile-machinery manufacturers is complicated by the problems of reparations and the removal of Japan's war potential.

Introduction to Industrial Uses of Electronics

ELECTRONICS IN INDUSTRY by G. M. Chute; McGraw-Hill Book Co., 330 West 42nd St., New York; 462 pp.; $5.00.

This book gives a broad introduction to uses of electronic circuits and equipment, with particular reference to their applications in industry. It does not assume previous knowledge of tubes, and the calculations used are limited to those involving simple arithmetic. Detailed explanation of electronic equipment now in commercial use is given covering light relays, motor controls, speed regulators, heat and light controls, etc. The concluding chapter is on non-electronic devices.

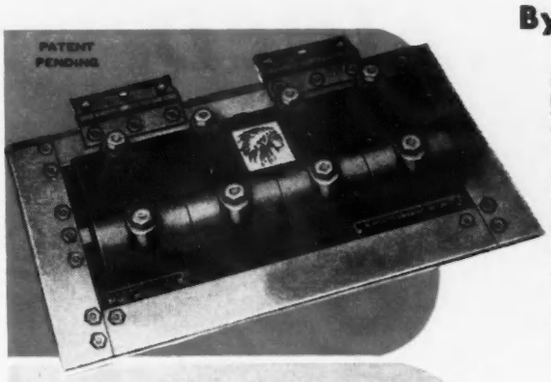
A City of the Future

NEW YORK AND THE FUTURE; Bankers Trust Co., New York; 52 pages.

This is a handsomely illustrated survey of the economic and social prospects of New York, compiled and issued by one of its leading banks. It suggests the scope of New York's postwar planning in many fields and offers material of interest to civic development in other communities. New York's importance in textiles and in the garment trades is stressed.

THE EFFICIENCY OF ERIEZ MAGNETIC PROTECTION PROVEN

By Wool, Cotton, Fibre and Waste Processors



SINCE the ERIEZ Heavy-Duty *Non-Electric* Textile Magnet was introduced, many plant superintendents and engineers verify that these permanently-powerful, compact magnetic plates are the most efficient, economical means of removing iron and steel trash from wool, cotton, fibre and waste processing systems. Returned questionnaires from ERIEZ Textile Magnet users in all textile centers give the following results percentagewise—

ON ELIMINATING MACHINERY DAMAGE: 40% say, "Since installing ERIEZ Magnets, machinery damage from iron and steel trash has been eliminated." 50% testify, "reduced 75% — 90%." 10% no answer.

ON ELIMINATING FIRES: 20% say, "Since installing ERIEZ, our fires have been eliminated." 30% reveal, "reduced 50 — 95%." (The other half of returns came from processors of wool and other non-combustible materials.)

ON OPERATING EFFICIENCY: 50% of returns stated, "As installed at the present time, our ERIEZ Magnets are operating perfectly." Remaining 50% said, "satisfactorily."

When it's Magnetic Protection, See Eriez First

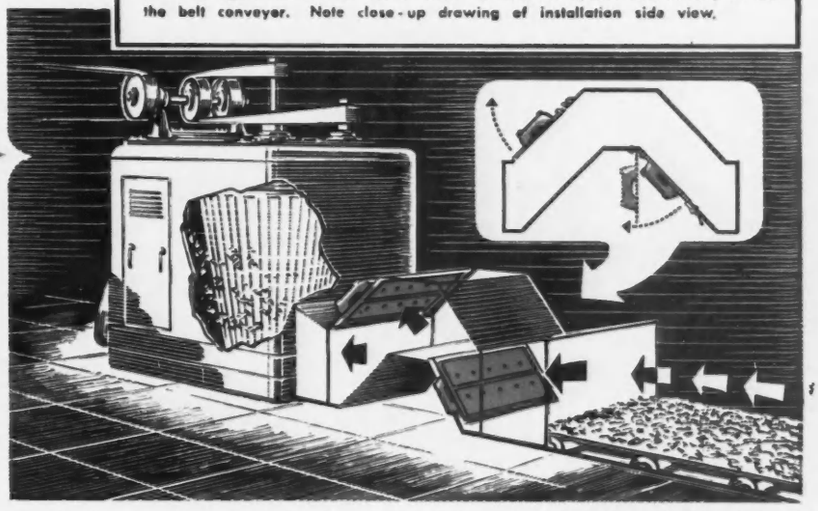
Below are shown the varieties of iron and steel trash pulled from the air lines of one large textile mill by their ERIEZ Non-Electric Permanent Magnets.

The wide preference for ERIEZ Magnets by leading textile processors throughout the world is based on the following advantages:

1. **Lowest Initial Cost.**
2. **No Operating Cost. No Repair Cost.**
3. **Lightest and Most Compact.**
4. **Easiest To Install.**
5. **Unconditional 10-Year Free Service Guarantee.**
6. **Made any Size to Fit Your Requirements.**
7. **MOST PROTECTION PER DOLLAR.**

After testing ERIEZ' efficiency - installed over the spiked apron of a feeder, one New England Wool Processor writes: "We enclose our order No. 887, for one ERIEZ Magnetic Separator, to be exactly the same as the one you shipped to our Lebanon Mills."

ERIEZ Magnets installed in feeder chute BEFORE the opener and directly AFTER the belt conveyer. Note close-up drawing of installation side view.



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For Your Copy of Bulletin 104 JULY

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ERIEZ MANUFACTURING COMPANY

501 East 12th St. Erie, Penna.

Textile WORKERS GAINED
By Staying on Essential Jobs

HIGHLIGHTS: *Virtually no unemployment now is found in study of textile group—Wages higher than ever while others are cut—Hours down, but take-home is up.*

By JOSEPH GAMBATESE
Washington Bureau, TEXTILE WORLD

MUCH ATTENTION has been given to workers in war industries—their transfer from peace to war jobs, high wages, long hours, the V-J Day cutbacks, then reconversion.

Little has been said about the worker who remained at his peacetime job, which was nevertheless essential to the war effort; who saw more in a job than the high wages which lured many a worker into the "war babies."

The experience of skilled cotton-textile workers who remained in the New England mills during the war and what happened to them in the first stage of reconversion has just been studied by the U. S. Bureau of Labor Statistics.

Two hundred spinners, weavers, and loomfixers (103 women and 97 men) employed in New Bedford and Fall River, Mass., and in Lewiston, Me., were interviewed in June, 1945, and again in January, 1946. This was disclosed:

Hourly rates increased an average of 26.2 cents an hour between 1941 and June 1945, at which time average weekly earnings had risen to $38 (men, $43.91; women, $32.56). Thirty-six of them earned more than $2,000 in 1943, whereas 43 earned that in 1944. (See Tables I and II.)

Job security—seniority rights—was a major factor in keeping this group in the mills. Twenty-three percent had been in the same job for more than 20 yr.; 13% from 15 to 20 yr.; 19% from 10 to 15 yr., and 16% from 5 to 10 yr.

Another consideration was the textile worker's attachment for his trade and his community. These attachments were solidified by family traditions and the community life which centered around the mill.

War's end did not bring unemployment or wage cuts to this sample group of 200. Last January 189 of them were still working for the same employer; only two were unemployed. By contrast, the jobless among shipyard workers was 25% in Wilmington, Del., and Vancouver, and more than 33% in Mobile, Ala. Eighteen percent of the St. Paul propeller workers were out of jobs.

Due largely to an 8¢ increase granted in November, this group last January was working slightly less time for slightly more money. Exact figures were available for 135 of them. Working 42.9 hr., they earned $39.63, whereas a year ago they worked 43.3 hr. for $38.69. In 1941 they got $23.68 for 40.3 hr. (See Table I.)

On the other hand, weekly earnings in the manufacturing industry as a whole fell 11%, from $46.34 to $41.14, during the second half of 1945. Weekly hours were reduced 8%, from 44.6 to 41.0. The drop in earnings was even greater in particular war industries. Weekly income was reduced 23% in Los Angeles aircraft plants, 40% in Wichita aircraft plants, 41% in St. Paul propeller plants, and 35% in Houston ordnance plants.

The ages of the workers surveyed were relatively high, because they were from the skilled groups, and because the younger ones had gone to war or into war plants. One of the men and three of the women were under 20. Twenty-nine of men and 47 of the women were between 20 and 44. Seventy of the men and 50 of the women were over 44.

More than a fourth of those over 44 were under 13 yr. old when they got their first job. By contrast only 11% of the men and 6% of the women in the 20 to 44 age group had started working before that age. (Table III).

TABLE I. Gross Weekly Earnings and Weekly Hours

		January 1941	June 1945	January 1946
73 Men	Gross Weekly Earnings	$26.80	$43.91	$44.05
	Weekly Hours	40.6	44.9	44.3
62 Women	Gross Weekly Earnings	$20.03	$32.56	$34.44
	Weekly Hours	40.0	41.5	41.4
Total	Gross Weekly Earnings	$23.68	$38.69	$39.63
	Weekly Hours	40.3	43.3	42.9

TABLE II. Classified Annual Wage Income of Identical Workers

Income group	All workers		Men		Women	
	1943	1944	1943	1944	1943	1944
Under $500	2	2	...	...	2	2
$500 but under $1000	21	10	1	...	20	10
$1000 but under $1500	68	66	18	15	50	51
$1500 but under $2000	68	74	42	41	26	33
$2000 but under $2500	26	29	25	26	1	3
$2500 but under $3000	8	11	8	11	....	....
$3000 but under $3500	2	3	2	3	....	....
$3500 but under $4000	...	1*	...	1*	....	....
$4000 but under $4500	1*	...	1*	...	....	....
Total	196	196	97	97	99	99

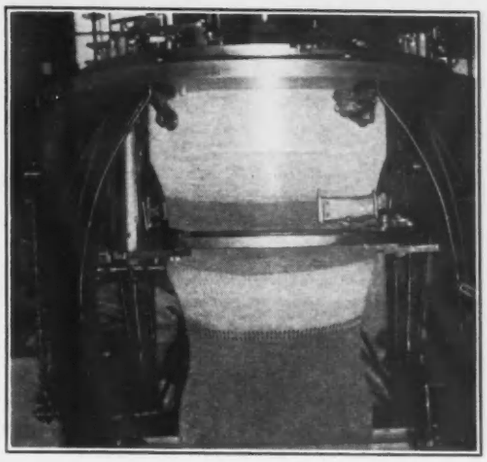
* During all of 1943 and 1944 this person was a shipfitter in a Maine shipyard.

TABLE III. Entrance into the Labor Market

Age of Entrance	Men		Women	
	Age* 20 to 44	Age* 45 and over	Age* 20 to 44	Age* 45 and over
12 years or under	11%	26%	6%	29%
13 or 14	39%	35%	45%	49%
15 or 16	29%	18%	33%	6%
17 or over	21%	21%	16%	16%
Total	100%	100%	100%	100%
Number	28	68	49	51

* As of June 1945.

Leighton



Automatic Brushing Attachment

Built and Sold by

LEIGHTON MACHINE CO.

You Get This Soft Fabric by Brushing

LEIGHTON Knitting Machines are readily equipped with brushing attachment, because the face of the fabric is on the outside, facing the operator.

There are definite advantages to horizontal or sidewise brushing on a circular knitting machine. It improves the handle or feel and smooths out the surface to give uniformity in appearance.

Write for full details on this method of producing sweater fabrics with a brushed finish.

LEIGHTON MACHINE CO.
Manchester, N. H.

LEIGHTON MACHINE CO.

MANCHESTER, N. H.

Loomfixers' MANUAL

WOOL SECTION — Chapter XVIII (Contd.)

AUTOMATIC FILLING MOTION

By EUGENE P. SCHREMP

THE TRANSFER LEVER should be adjusted so that there is slight clearance between the heel and the bobbin rings, as shown in Fig. W-47. The clearance depends largely on the speed of the loom. On slow-speed loom operating up to 120 picks per minute the clearance should be $\frac{1}{64}$ in. Looms running at higher speeds should have a clearance of $\frac{3}{32}$ in. This variation in clearance is necessary because of the added momentum of the transferring element on the faster loom. Without the proper clearance the transfer arm may drive the full bobbin out of the shuttle.

ADJUSTMENT OF TRANSFER. Bring the lay forward to the point where the bunter on the lay will just clear the notch of the dog. With the slide down in a transferring position, the dog should be adjusted so that the bunter will strike it just above the base of the notch, as illustrated in Fig. W-48.

The older type looms employ a threaded rod to raise or lower the dog. Newer types are adjusted by changing the position of the arm on the preventer shaft.

Bring the lay to front center so that the dog is lowering the transfer arm. Adjust the length of the dog, if necessary, to secure the proper clearance between the heel and the bobbin rings. A simple way to make this adjustment is to loosen the bolt that holds the dog to the holder. Then loosen the setscrew so that there will be considerable clearance with the lay at front center. Tighten the bolt slightly and then screw in the setscrew until the proper clearance is reached. All parts should then be tightened securely so as not to work loose.

The stop for transfer is also adjusted with the lay at front center, but after the transfer arm has been adjusted. With the arm at its lowest position there should be $\frac{1}{32}$-in. clearance between the arm and the stop. Older type magazines have the stop-screw located in the magazine frame under the transfer arm. Newer type magazines have the screw placed in the transfer arm.

Length of the crank arm, height of the lay, and position of the magazine itself will alter or change the transfer clearances. When changing the adjustment of any of these related parts, the clearance of the transfer should be checked.

Position of shuttle at transfer may be changed by adding or removing packing from behind the picker. Loomfixers should check this position frequently as bad doffs and loom breakage will result if the shuttle is allowed to go too far into the box. Also, the filling detector will not operate properly if the shuttle is not correctly positioned.

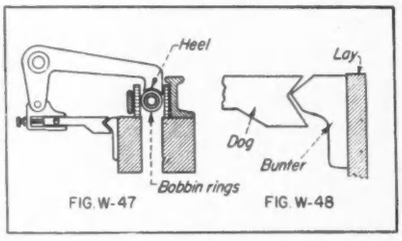


Fig. W-47. A slight clearance should exist between the heel and the bobbin rings at transfer.

Fig. W-48. The bunter should strike the dog just above the base of the notch.

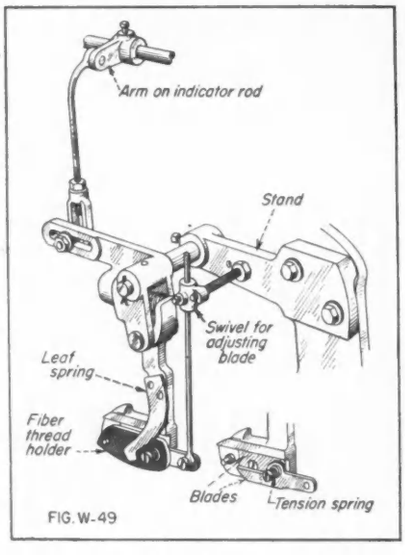


Fig. W-49. Thread cutter and revoker mechanism for a C&K automatic magazine.

ADJUSTMENT OF THREAD - CUTTER AND REVOKER. The combination thread-cutter and revoker, shown in Fig. W-49, should be adjusted so as to revoke, as well as cut and hold the filling end.

The purpose of this revoker is to prevent a bobbin from transferring if the shuttle is not properly boxed. If a shuttle should rebound or not enter the box fully, and if there is nothing to prevent a transfer, a broken bobbin, shuttle, or other serious trouble will result.

The revoker should be adjusted so that there will be no more than $\frac{3}{16}$-in. clearance between the tip of a properly boxed shuttle and the bottom of the swing arm. This clearance will prevent a transfer unless there are at least two rings of the bobbin caught in the shuttle. The forward position should be adjusted so that there is $\frac{1}{4}$-in. clearance between the front of the swing arm and the back of the box with the loom at front center. This adjustment should be made with the magazine in running position and with the cutter back and the preventer slid up.

When the revoker is properly adjusted but the shuttle is not boxed fully, the tip of the shuttle will strike the arm, pushing it back so that the dog will drop before coming in contact with the advancing bunter lay. This action will prevent transfer of the bobbin. It will also open the give-way and allow the full bobbin to drop into the can as the lay moves back.

Only one bobbin will be held in a transferring position at one time. If two or more bobbins were held in the give-way, a smash or wrong color might result. The cause of much magazine trouble is from shuttles not boxed properly and the revoker allowing attempted transfers.

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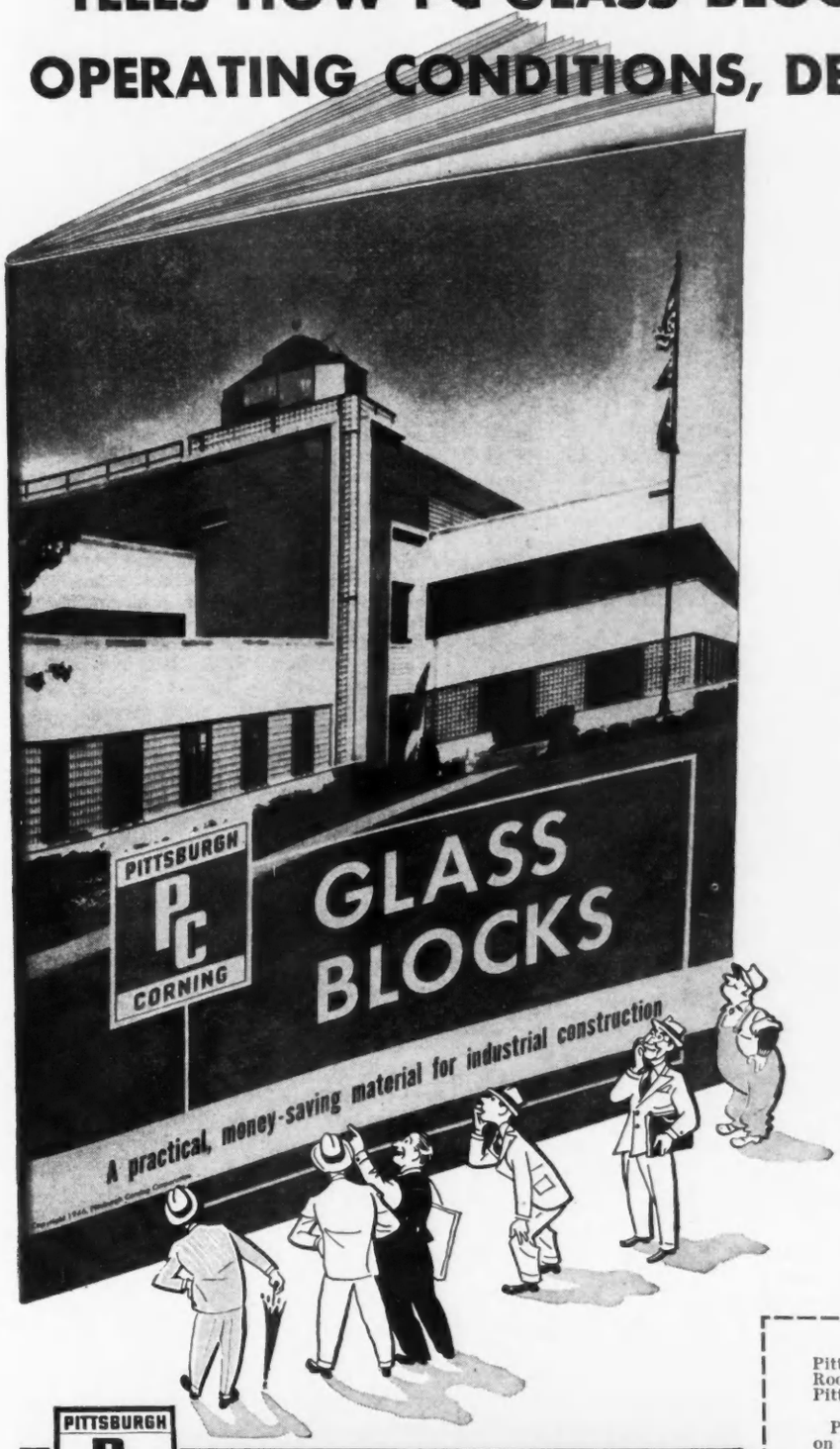

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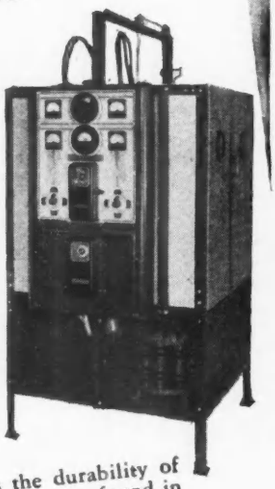
Launder-Ometer

ATLAS *twin arc* WEATHER-OMETER



Faithfully duplicates the combined weathering effects of sunlight, rain, heavy dew and thermal shock; accelerated to reduce years of actual weathering to a few days of testing.

The new Twin-Arc Weather-Ometer is equipped to take large size textile specimens in order to meet the new Federal Specifications demanding accelerated weathering tests. Full automatic control of light and water periods is provided by the Atlas cycle timer unit which can be set to meet standard and special requirements of weathering tests. A direct reading thermal regulator, automatic shut-off switch and a running time meter are included as standard equipment. After setting exposure cycles on the control panel the Weather-Ometer can be safely left in continuous operation overnight without attention except to replace carbons once in 24 hours.

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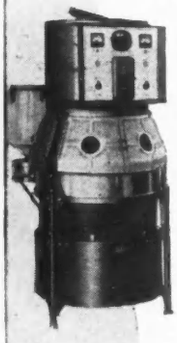

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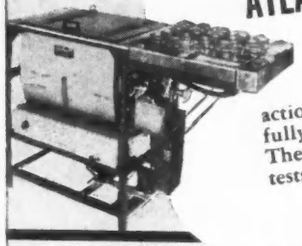

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FOR EXCHANGE OF IDEAS

The Round Table is designed to supply a meeting place where mill men can discuss problems among themselves. It is open to all readers for discussion of subjects relating to mill management and operation. Names of contributors to the Round Table will be held confidential if so requested, but sign contributions with your real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table, Textile World, 330 West 42nd St., New York 18, N. Y.

Daily Safety Letter Aids Plant Committee

I have been safety director in our plant for a number of years, and I have found that adequately impressing upon workers the importance of self-preservation is a difficult job. Although we keep an educational program under way continuously to accomplish this purpose, we have not been able to reduce accidents so much as we think they should be reduced.

One practice we follow consists of publicizing each accident that occurs. On each bulletin board throughout the plant, a list of the employees injured the preceding day is posted. This list also gives the nature and cause of the injury and the safety rule which, had it been followed, would have prevented the injury.

Beside the list, we place a daily safety letter prepared by the safety committee. This letter calls attention to any unusual accident reported on the list and often gives a testimonial statement by the person injured. The letter also contains a word of caution as to how some current general condition—weather, working schedule, power or stock supply, materials, etc.—can affect accidents.

We try to make the daily safety letter

Obermaier
Reg. U. S. Patent Office

STIENEN
TRADE MARK

A NEW AND MORE EFFICIENT WOOL RAW STOCK DYEING MACHINE

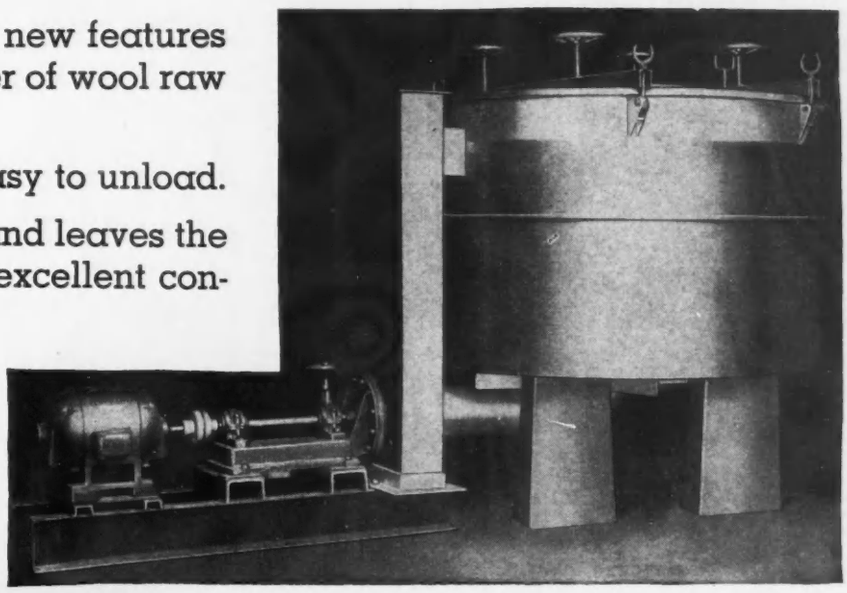
MODEL NUAPR

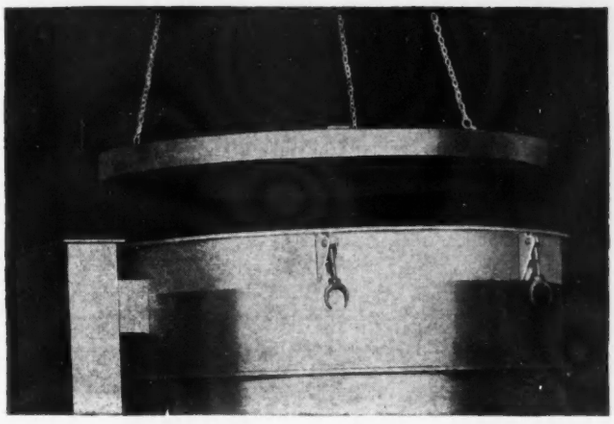
This machine has many new features that will appeal to the dyer of wool raw stock.

It is self-loading. It is easy to unload.

It assures even dyeing and leaves the stock undisturbed and in excellent condition.

It is economical to operate.





This machine is easy to unload. It has a removable perforated plate (shown above) which forms the bottom of the dye tank. The entire batch may be removed from the tank in one block by an electric hoist and dumped wherever desired.

THE MODEL NUAPR RAW STOCK DYEING MACHINE IS SELF LOADING

By *blowing* the raw stock into the machine and circulating the water downwards, the stock *packs itself* downward.

This machine prevents felting, channelling, or fibre disturbance.

The steam intake is located in the dyestuff feeding tank, which is separate from the dye tank. The dyestuff is first distributed by a propeller before reaching the material, giving a steady flow of liquor at low pressure even at the boiling point.

Other advantages include: Easy sampling without opening the machine—automatic reversing device — low power consumption and operating cost —exceeding low liquor rate. All Stainless construction.

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BRAKE AND MOTOR CONTROL—Buckley (Patented) combined brake and motor control is designed with fewer operating parts—ruggedly constructed to insure long life and positive control—equipped with oversize magnets, silver-tipped contacts, and contactors with mechanical interlock.

PLUGGING LIMIT SWITCH—Should the load block over-drift, to prevent possible damage, the plugging limit switch will automatically establish a momentary lowering circuit with the hoist motor as the load hook reaches its upper limit of travel.

BALANCED DRIVE—The driving pinion drives a train of alloy steel gearing at points diametrically opposite, thus balancing all stresses. Balanced drive assures smooth operation and long life under constant load handling.

ONE POINT LUBRICATION—Gearing, bearings and mechanical load brake automatically lubricated by single oil reservoir.

ANTIFRICTION BEARINGS—Highest grade antifriction bearings are used throughout.

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ALLOY STEEL GEARING—Heat-treated, machine cut from forged alloy steel.

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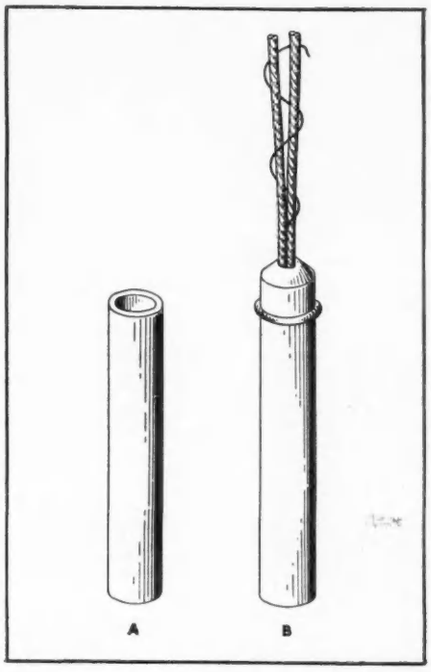
breezy and interesting so that all the workers in the plant will read it every day. *(R-283)*

Blasting Cap in Coal Injures Yard Worker

We had an unusual, and serious, accident at our plant some time ago. A yard laborer found two small metal tubes on the coal pile. He picked them up and began absently playing with them. One of them exploded, and he lost both hands and both eyes.

The small metal tubes happened to be blasting caps which a careless miner had allowed to become lost in the coal. *(R-284)*

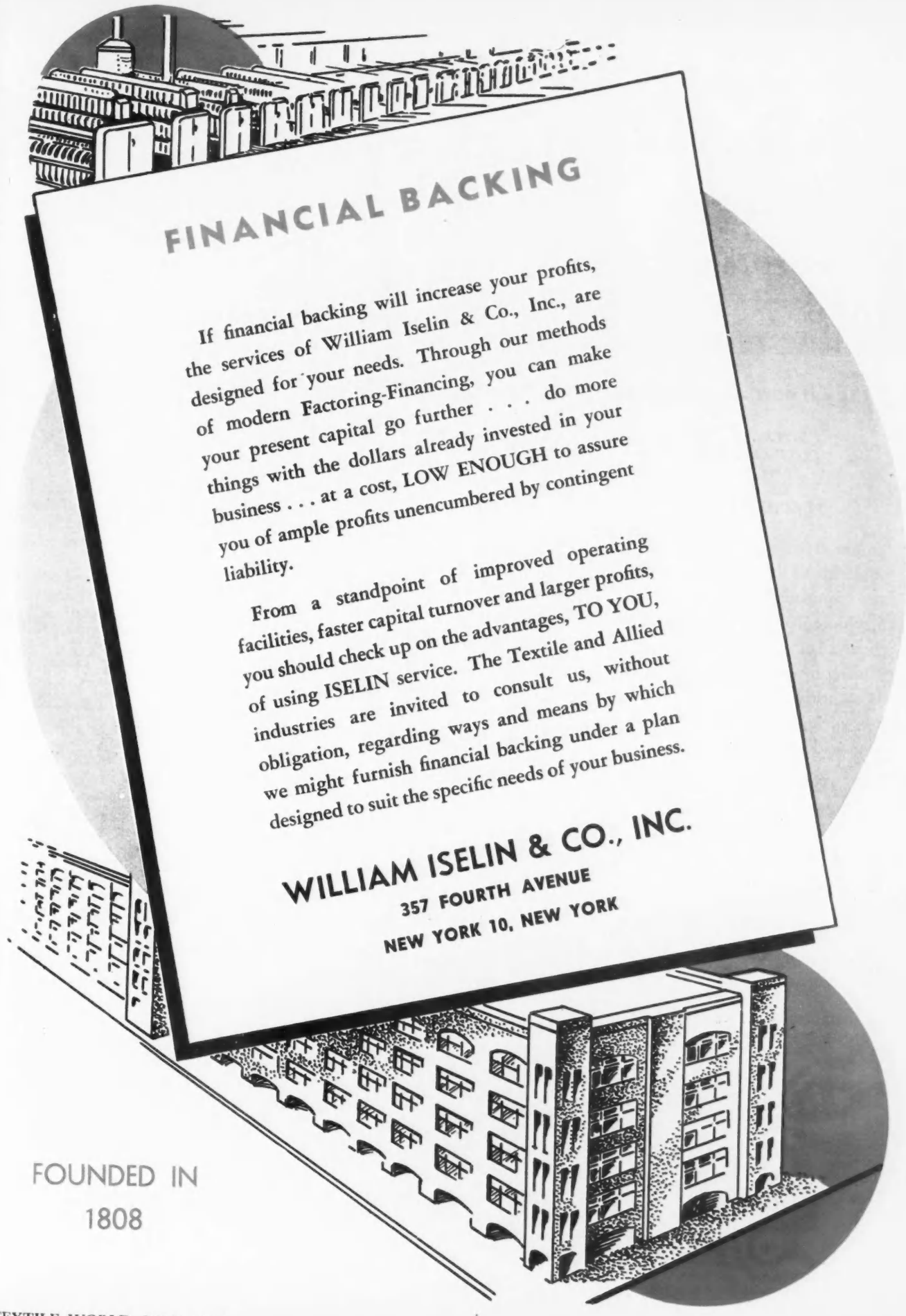


Two types of blasting caps. A is drawn to actual size; B, an electric cap, varies in size and color.

Busy Periods Offer Chance for Initiative

The periods during which business is poor are those when every individual watches closely to find means for cutting costs. I suggest that the periods during whcih business is good are those when more attention should be paid to keeping costs down, finding better and more efficient methods for production, etc.

When things are dull, the average worker is more likely to apply himself diligently to his tasks, the motive being preservation of the job for himself. When things are booming, he loses sight of the fact that there may be better ways of doing a job; and he is in-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clined to accept the current manner of doing things as satisfactory, possibly because he knows that the work is needed and his services are necessary.

During good times there may develop a tendency to overstaff a department, to ignore infractions of regulations, and to slight the ever-present waste problem. It is during these times that those responsible should be trying to figure ways to cut costs, decrease personnel, and keep on the lookout for problems that are certain to come during a work shortage when top management will clamor for reduction in expense.

The busy period is a good time to find out which of the employees in any department are most suitable for advancement and responsibility. An employee who drifts along from day to day, doing just those things which are necessary, is clearly one who is unfit to assume responsibility. On the other hand, one who makes the most of each opportunity, pulls his full share of the load, is alert to finding ways to do his work more efficiently, and contributes to the morale of his department is well worth keeping in mind for advancement when an opening occurs.

A former general manager of one of the largest cotton and rayon units in Maine held the opinion that during bad times everybody was on the lookout for means of doing work better but that during good times the oppositive is true. His expression was, "During bad times things fairly well take care of themselves. It is during good times that management must be on the lookout for trouble of all kinds." During the depression of the thirties, his was one of the few mills that made a profit each year. His opinion should bear some weight, and his practices could well be copied. *(R-285)*

Needle Firm Made Tiny Screws at 60 per Min.

The article on *Knitting Needles*, by Mr. Miller, in the April issue of TEXTILE WORLD, was very interesting; and the drawings were fine.

Since I designed and supervised the building of the screw rivet machinery used by the Acme Knitting Machine & Needle Co. in 1922, I can add a few items to the story that may be of interest.

The screws we used were made directly from a coil of 0.015-in. diameter wire. After passing through a revolving straightener, the wire was clamped by the grooved jaws of dies, cut off, and rolled for the thread at 252 threads per in. We made 60 screws per min., and each screw was long enough for two needles. We did not use paper inserts

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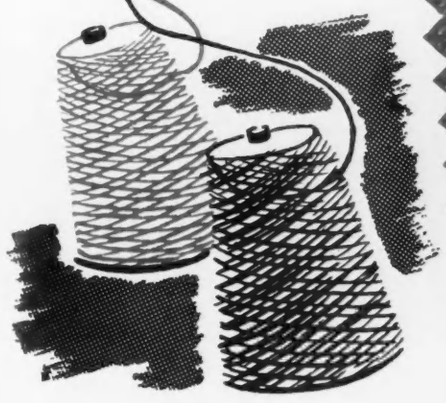
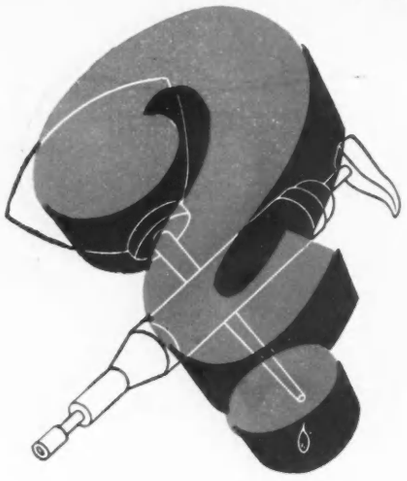
STANTEOSINE is a mill tested product giving extreme softness using small amounts. Its affinity for fibers gives it greater permanency than other types of softeners.

STANTEOSINE is stable in hard water and in solutions of calcium, magnesium and other salts, making it very adaptable for heavy finishes, especially where weight is desired. It can be used over a wide pH range.

STANTEOSINE has various applications in the processing of silk, nylon, rayon, acetate, cotton and wool fabrics and all types of mixed goods. In the finishing of piece goods, and as a rinse after dyeing on raw stock, yarns and piece goods, Stanteosine gives a soft, silky hand without fear of odor developing on storage.



(Advertisement)



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The question of selection of the proper type and consistency of lubricants need offer no problem. LUBRIPLATE Lubricants are available from the lightest fluids to the heaviest grease types. All reduce friction and wear, protect against rust and corrosion, and are more economical than conventional lubricants. Let us prove our case.

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No. 3 — Ideal for general oil type lubrication, ring oiled bearings, wick feeds, sight feeds and bottle oilers.

No. 8 — Because of high film strength and long life it reflects outstanding performance in most types of enclosed gears (speed reducers).

No. 107 — One of the most popular grease type products for general application by pressure gun or cups.

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No. 130-AA — Known nationwide as the superior lubricant for open gears, heavy duty bearings, wire rope, etc.

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The operation of all types of machinery is dependent upon lubrication and to assure satisfactory operation, bearings, gears, cams, chains and other moving parts must be lubricated with a lubricant that "fits the job."

Equipment Manufacturers increasingly realized the extreme importance of proper lubrication, so most often included the appropriate lubrication system in their construction design. When no special lubricating devices are incorporated in the machine design, manufacturers will generally specify, with accompanying literature or tags, just how and with what type product the lubrication is to be performed. There remains for the equipment user however, to consider his own individual operating conditions as a basis for selecting the proper *type* oil or grease that will have all the necessary properties required for assuring satisfactory lubrication.

In choosing an oil, operating Speeds and Temperatures are the most determinant factors. High speeds require light bodied oils; high temperatures require a heavy oil that will retain its film strength and will not be dissipated to a watery consistency in the presence of considerable heat, and shall possess high flash and fire points. Likewise the choice of grease will depend on Operating Speeds, Temperatures, Loads, and the possible presence of water, acid, or dust conditions. High Speeds require a light to fluid grease; high temperatures require a medium to heavy grease. For heavy loads, medium to heavy greases, and preferably enhanced by an extreme pressure additive, are most suitable. However, today's trend is leaning toward multi-purpose lubricants.

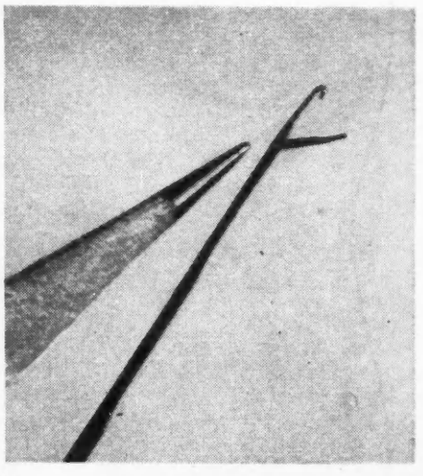
LUBRIPLATE lubricants were developed to "fit the job." Whether grease or oil is required there is a LUBRIPLATE product to meet every lubrication demand. LUBRIPLATE arrests progressive wear and protects against rust and corrosion. Because LUBRIPLATE is endowed with special qualities not found in ordinary lubricants, it is well able to meet the modern demands of higher speeds, heavier loads, and extremes of heat and cold, to the utmost satisfaction of its many users.

A copy of "THE LUBRIPLATE SERVICE HANDBOOK" containing valuable information on the subject of lubrication will be furnished without charge by writing Fiske Brothers Refining Company, Newark 5, N. J. Adv.

in putting in the latches. Tapping the needles and spinning the screws to place were simple operations performed at approximately 20 per min. The cutters left about 0.003 in. for heading down.

About 1940, a method better suited for fine needles was developed. With the latch in correct position, the cheeks of the needle are pressed into the pivot hole in the latch, and electrically welded together where they contact. This 75-gage, 80-hook needle is the kind used on the seamless 400-needle nylon machines made by Scott & Williams, Inc.

Four hundred needles ÷ 11.871 in. (which is the circumference of the needle line of a 3¾-in. needle cylinder) = 33.69 needles per in.; almost the 34 needles per in. of a 51-gage, full-fashioned knitting machine. Good results have been obtained on these machines with as fine as 15-den. nylon. *(R-273) Walter A. Simonds, Franklin, N. H.*



The screws used in making two knitting needles of this type were manufactured were produced at the rate of 60 screws per min.

Fishermen and Spare Hands Contribute Textile Knots

Your article on tying knots [TEXTILE WORLD, June] was interesting. However, I think that the double weaver's knot will slip apart on many types of yarn almost as easily as the weaver's knot. Another objection I have to the double weaver's knot is that, when used on coarse synthetic yarns, it is too bulky to pass smoothly through heddles and reeds. Therefore, I submit two knots—the fisherman's knot and the spare-hand's knot—as substitutes for the double weaver's knot.

The fisherman's knot, Fig. 1, consists of two running overhand knots. To tie it, place the two ends of yarn together in a parallel position with the

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• Want an effective means of combating high heat, dust, moisture and overloads—hazards that cause the greatest losses to users of electrical equipment? Fiberglas* Electrical Insulation Materials enable the designer and manufacturer of electrical equipment to provide protection against the damaging effects of oil and most acids.

And another big plus value of Fiberglas Insulation is its merchandising feature and sales influence. It is winning widespread buyer preference because it improves quality, performance and *use economies*.

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Ask your Fiberglas Distributor for the complete story on the *use economies* of Fiberglas—and add the "extra" protection of Fiberglas High-Safety-Factor Insulation to your electrical equipment.

For performance and application data, write for the new Fiberglas Electrical Insulation Materials catalog, *Owens-Corning Fiberglas Corporation, Dept. 864 Toledo 1, Ohio. In Canada, Fiberglas Canada Ltd., Oshawa, Ont.*

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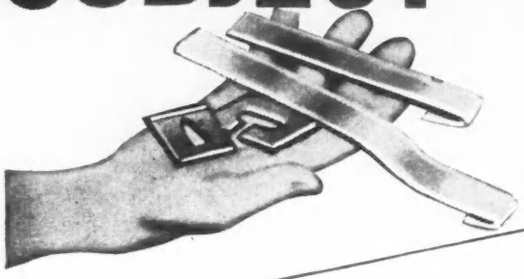
SUBJECT Positive tramp iron removal

what textile magnets can do the job?



Unbiased field and laboratory reports show conclusively that magnetic separators handling large quantities of stock should have far greater depth of magnetic field than so-called "permanent" magnets supply. Positive tramp iron removal should be accomplished without limiting the speed or quantity of material passing the separator. Narrowed duct work to accommodate the limited range of "permanent" magnets not only cuts production volume, but also invites chokes which are a serious fire hazard in themselves. Textile magnets should have the *range* and *power* to secure positive tramp iron removal at full production volume rates.

why

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2. Full "High Intensity" magnetic strength . . . No diminishing of power after a few months' use.
3. *One* magnet does the job . . . No need to install two or more in complicated duct work.
4. No "bottleneck" ducts necessary to get material close enough to magnet . . . Dings Magnets have range and capacity to handle big production volume, *safely*.
5. Corrugated bronze face plate is non-sparking, helps trap non-ferrous foreign materials as well as tramp iron.
6. No scraping of magnet face necessary. Tramp iron drops into trap when current is shut off.

Write today for details on Dings Textile Magnets for protecting your plant.

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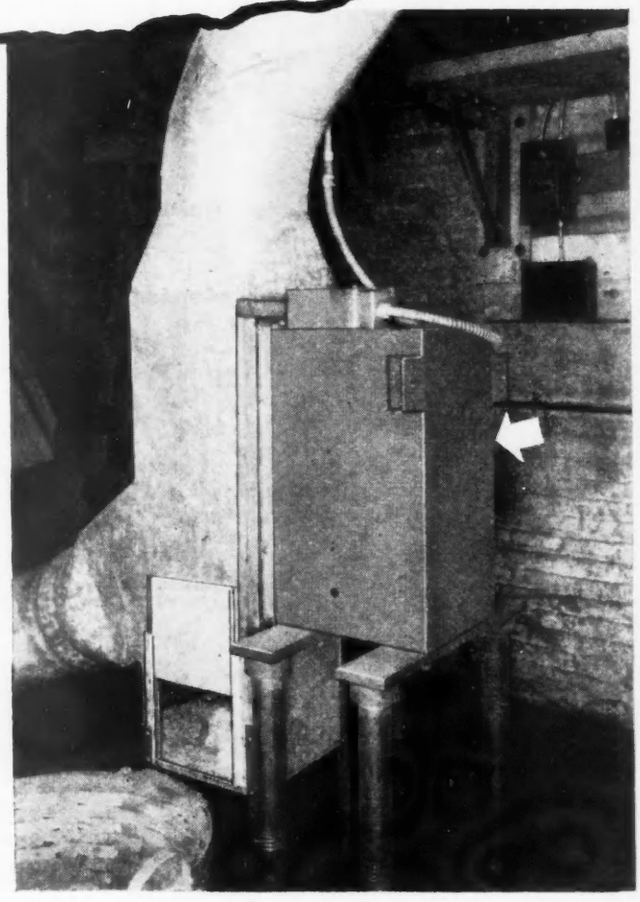
540 East Smith Street • Milwaukee 7, Wisconsin

Dings "HIGH INTENSITY"



Note full duct capacity at Dings Textile Magnet in this typical installation. Trap at bottom contains tramp iron and non-ferrous foreign material stopped by corrugated face plate.

MANUFACTURERS' BULLETINS

READERS may secure copies of literature reviewed on these pages by using the post cards below. Fill them out completely and drop them in the mail.

Free FOR THE ASKING

1. **Textile chemicals** for printing, finishing, and warp sizing are described, and recommended applications and formulas for use are given, in a booklet published by Bryant Chemical Corp. A Spanish-language edition of the booklet, containing the same material, is available for Central and South American mills.

2. **Handling of rayon cakes** in textile mills, including advantages of using cakes, proper methods of handling, correct use of holders, preparation of cakes for winding, tension control in winding, and important factors in soaking and drying, are described and illustrated in Bulletin No. 2118 published by American Viscose Corp.

3. **"Testing in Modern Industry"** is the title of a booklet published by United States Testing Co., Inc. Descriptions of test methods used on textile materials from raw stock to a wide variety of finished products are given. In the back pages are reproduced useful tables of weights, measures, equivalents, comparative yarn tables, and chemical tables.

4. **Pensal-B,** a detergent designed to eliminate or reduce use of soap in washing processes, is described in a leaflet entitled "The New Development in Break Powders," published by Pennsylvania Salt Mfg. Co.

5. **Anhydrides,** including the properties and uses of acetic, propionic, butyric and maleic anhydrides, are discussed in a booklet published by Carbide and Carbon Chemicals Corp. Charts giving data on vapor pressures, specific gravities, viscosities, and other physical and chemical properties are included.

6. **Cost factors of installment lending** are analyzed in a manual issued by American Bankers Association. Proper methods are given for calculating the four cost elements of each loan: (1) basic acquisition cost; (2) liquidation cost per installment; (3) liquidation cost per loan; and (4) per-dollar cost.

7. **Roto-Coners** and the ways in which they are designed to reduce winding waste and winding costs are described in a leaflet issued by Universal Winding Co.

8. **Control of static electricity** developed on drive and conveyor belts and methods for prevention of belt sparking are discussed in a technical bulletin published by Acheson Colloids Corp. The technique described involves application of colloidal graphite to pulley sides of belts.

9. **V-belt drives** and their advantages for efficient and economical plant operation are described in a 16-page illustrated booklet published by Multiple V-Belt Drive Association. Written for laymen, the booklet presents its story in terms of operating advantages.

10. **Fluorescent lamps** and auxiliaries and their basic principals and operating characteristics are explained in a 24-page booklet issued by Westinghouse Electric Corp. Complete ratings of important types are listed, mortality and replacement curves are given, and voltage requirements are discussed. Color and stroboscopic effect, d-c operation, a-c frequency, power factor, radio interference, noise and vibration, and effects of temperature and humidity on starting and output are discussed in detail.

11. **Rubber-lined tanks** for handling corrosive materials are illustrated in a 12-page catalog issued by B. F. Goodrich Co. Attachment of rubber to metals by the Vulcalock process, combining the stability of metal with the corrosion resistance of rubber, is described along with recommended uses in handling a wide variety of materials.

12. **Financing** machinery and equipment, both new and used, is discussed and a financing plan is outlined in a 16-page pamphlet issued by Commercial Credit Co.

13. **Water demineralizers** in capacities from 3 to 1,000 gal. per hr., and a purity meter reading directly in parts per million of NaCl are described in two new bulletins issued by Barnstead Still and Sterilizer Co., Inc.

14. **Industrial gas masks** for protection against gases, smoke, vapors, and dust are described in a 4-page bulletin published by Mine Safety Appliance Co. A wide selection of cannisters for different gases and vapors are pictured.

15. **Molding with Lumarith,** including injection and extrusion molding of thermoplastics, is described and pictured in a brochure issued by Celanese Plastics Corp. Clear and colored transparents, mottles, translucents, pastels, and opaque colors are illustrated.

16. **Magnesium in the textile industry**—including its desirable qualities; its use

Instructions for use of post cards on other side

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in spinning frames, twisters, and winders; its use in tricot, warp, and section beams; and its use in knitting machinery—is described in a 44-page booklet published by American Magnesium Corp.

17. Flexible couplings for a wide variety of drives ranging from 0.05 to 1,240 hp., and with maximum speeds up to 6,300 rpm., are described in a catalog issued by American Flexible Coupling Co.

18. "Industrial Electronics" is the subject of a bulletin issued by John T. O'Connor & Co. The standard line of photoelectric-eye sets is described, along with special items and consulting services available.

19. Permanent magnetic separators and typical installations illustrating their use in removing iron and steel trash from textiles in process are covered in a 4-page folder issued by Eriez Mfg. Co. A table of sizes and styles shows models varying from 4 to 72 in. width.

20. Steel-plate rings for a wide variety of industrial applications, including fabrication of gears, pulleys, and wheels, are described and illustrated in a 12-page booklet published by Lukens Steel Co.

21. Waterproofings, dampproofings, and specialty materials for concrete, including integral waterproofing, clear dampproofing and bituminous dampproofing, transparent membrane curing materials, damp wall paint, and shrink-proof mortar, are described in a specification book issued by Truscon Laboratories, Inc. The book also contains specifications and illustrations of the products.

22. The mercerization process is pursued further in the third, fourth, and fifth of a series of reprints of informative articles being issued by Dexter Chemical Corp. The self-explanatory titles of these three reprints are: "Methods for the Study and Control of Mercerization," "Variations in the Removal of Pectic Substances from Cotton Yarn in the Mercerization Process," and "Luster Determination with a Photoelectric Photometer."

23. Boiler feed-water control equipment and an illustration of a working installation are discussed in an 8-page pamphlet published by Northern Equipment Co.

24. An employee suggestion system and pointers on the practical workability of the suggestion system are discussed in a booklet published by B. F. Goodrich Co.

25. Micro-porous-porcelain filter media in a variety of sizes and shapes, with illustrations, porosity charts, flow-rate tables, and suggested applications, are described in a 32-page catalog published by Selas Corp. of America.

26. Two new Saran coating materials, one a solvent-soluble resin employing very low noisture-vapor transmission and the other a latex which forms a continuous film upon air drying, are described in two technical data booklets published by Dow Chemical Co.

27. Boiler try-cocks of the lever-operated and weight-operated types for working pressures of 150 to over 600 p.s.i. are described and illustrated in Bulletin WG-1815, published by Yarnall-Waring Co.

28. Plans for a photographic dark room for industrial photographers, including pertinent points in the construction of wet and dry units, are described in a pamphlet issued by Eastman Kodak Co. The units described are designed to make cleaning as simple as possible and eliminate dirt-catching constructional features.

29. Fabric washing equipment is described and detailed information and data about three "Washex" installations are given in an illustrated brochure published by Fabrics Laundry & Dry Cleaning Machinery Corp.

30. "A Magic Eye" is the title of a 4-page folder published by Boulin Instrument Corp. in which is described the Strobomeca, a small stroboscopic tachometer which weighs less than 11 oz.

31. Water filtration equipment of the sludge-blanket reactivator type is described and charts, flow diagrams, and cutaway drawings showing operation details are given in an 8-page illustrated booklet published by Graver Tank & Manufacturing Co., Inc.

32. Strainers and separators for removing dirt, scale, and other foreign matter from steam, gas, air, water, and oil lines are described and illustrated, with complete specifications of each type, in a 16-page illustrated bulletin No. 46-50 published by American District Steam Co.

33. A certified-merchandise plan for brand-name products in which such products are granted a seal of quality after passing material and service tests is described in a 16-page pamphlet published by United States Testing Co., Inc.

34. "Quality Wins Friends," a new Durene sales training manual prepared to make available to sales personnel qualities of Durene yarn which are of interest to consumers, has been published by Durene Association of America.

35. Hallowell shop furniture made of pressed steel, including work benches, tool stands and boxes, tables, locker-room benches, foremen's desks, chairs and stools, and drawers and cabinets of various types, are described and catalogued in a 40-page bulletin published by Standard Pressed Steel Co.

36. Applications of magnetic separators in two specific installation points, namely (1) over the top of spiked apron feeders, and (2) in "hump type" air lines, are described in detail in a textile news bulletin issued by Eriez Manufacturing Co.

TO GET MORE INFORMATION

1. Fill out completely one space (name, title, company, address and item number) for each *bulletin* wanted. Put only one number in each square.

2. Use bottom card only if ordering one to four pieces, both cards if ordering five to eight.

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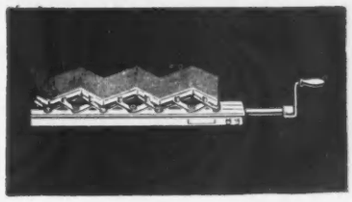
RECONVERSION CHANGES

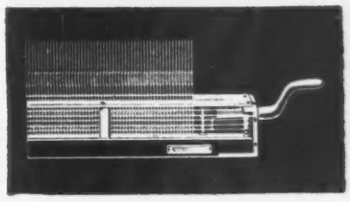
That are being met by

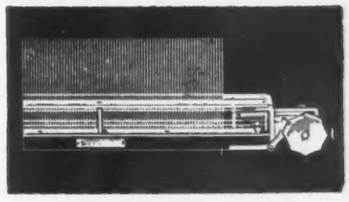
Loom Harness *and* Warp Preparation Equipment

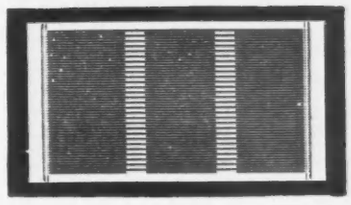
Modern conditions and circumstances in the Weaving Industry have brought about great changes in both the machinery and the auxiliary equipment used in connection with same.

To withstand the greatly Increased Speed at which the Looms and other equipment are forced to operate, the old auxiliary equipment formerly used cannot be expected to stand up under the new conditions.









QUALITY LOOM HARNESS EQUIPMENT

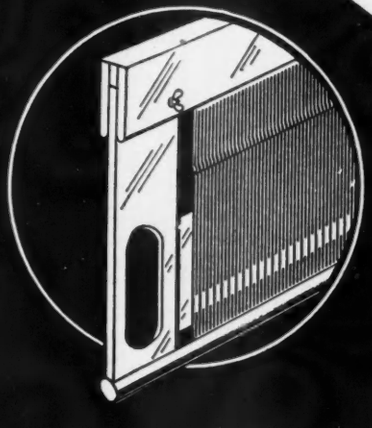
Ste-Hed-Co

Loom Harness and Warp Preparation Equipment

has been designed, built and modernized to meet all the modern requirements.

Our Hook Reed Expansion Combs, Scotch Hook Reed and Multi-hook Reed Leasing Devices, Spring Combs, etc. have all been highly perfected and are being used today by most of the mills that have modernized their equipment.

Ask our Local Field Engineer for details.



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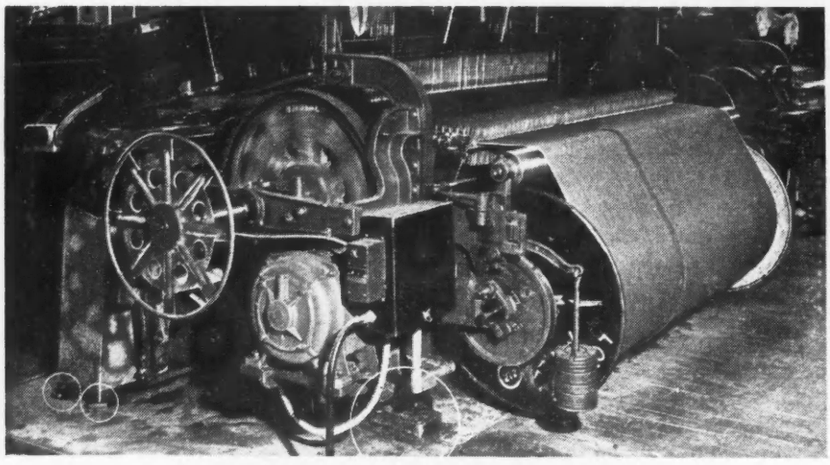
2100 W. Allegheny Ave., Philadelphia 32, Pa.
and
SOUTHERN SHUTTLES DIVISION
621 East McBee Ave., Greenville, S. C.

IT PAYS TO

Cushion-Mount

YOUR LOOMS



NO BOLTS—NO FLOOR DAMAGE
FEWER MACHINE REPAIRS

When You Use GENUINE UNISORB

There's no drilling or boring or damaging floors when you cushion-mount looms on *genuine* Unisorb pads. It's simple, quick and inexpensive. A special cement securely binds the Unisorb to the machine feet and the floor — permanent set absolutely prevents any riding of the machine.

By controlling vibration with Unisorb — you will realize further dividends through the saving in machine repairs and reduction in shut-down hours; through greater production from speedier operation; through increased efficiency in quieter surroundings; through the reduction of building maintenance costs.

Unisorb does not deteriorate with age or use, nor are its isolation characteristics affected by oil, gasoline or water. Send for samples and complete information.

IT'S EASY TO IDENTIFY GENUINE UNISORB

LOOK FOR THE RED CENTER AND UNISORB BRAND MARK

THE FELTERS COMPANY

210-W SOUTH STREET, BOSTON 11, MASSACHUSETTS

Offices: New York, Philadelphia, Chicago, Detroit.
Sales Representatives: San Francisco, St. Louis, Southern Representative: Industrial Supply Co., Clinton, S. C. *Mills:* Johnson City, New York, Millbury, Massachusetts; Jackson, Michigan.

ends leading in opposite directions. With the left hand, pass the end from the right hand *under* the end from the left hand, *over* both ends, and *through* the loop formed in the end from the right hand.

Now with the right hand, pass the end from the left hand *under* the end from the right hand, *over* both ends, and *through* the loop formed by the end from the left hand.

Pull the knot tight.

The spare-hand's knot is so called because it is used by spare hands when they are "straightening a cord" in a silk warp. It consists of a running overhand knot stopped by a half hitch. To tie this knot, Fig. 2, place the two ends together in a parallel position with the ends leading in opposite directions. With the left hand, pass the end from the right hand *over* the end from the left hand, *under* the end from the left hand, and over the end from the right hand.

With the right hand, pass the end from the left hand *under* the end from the right hand, *over* both ends, and *through* the loop formed by the end from the left hand. (This part of the knot is identical with the corresponding part of the fisherman's knot.)

Pull the knot tight by drawing the

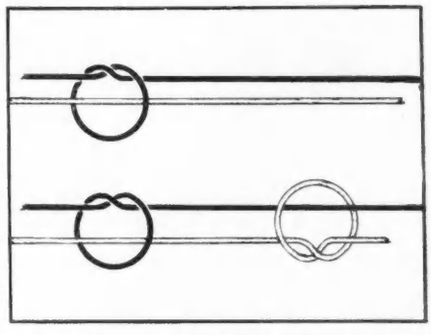


Fig. 1. The fisherman's knot, composed of two running overhand knots, is recommended by the author for use on coarse synthetic yarns.

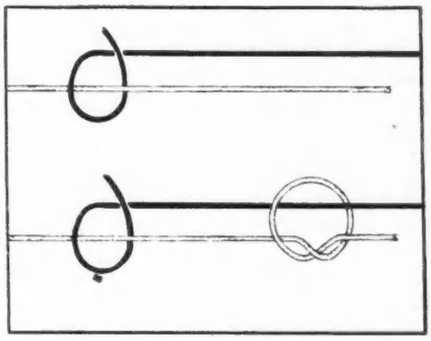


Fig. 2. The spare-hand's knot consists of a running overhand knot and a half hitch.

The Case of The Men Without a Job!

A True Story that took One Billion Dollars... and 90 years...to write!

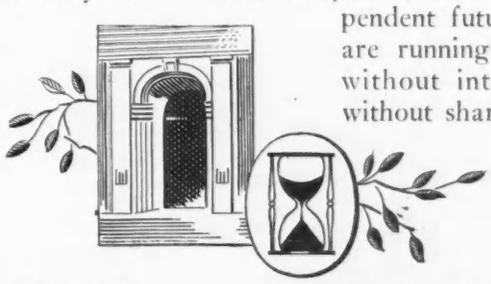
Suddenly—without warning—the blow came! After years of loyal service, the department was discontinued . . . . the two men were without a job!

Already, their phone was jangling with offers! But the two purchasing agents . . . cleaning out their desks, preparing to leave the office . . . were tired of working for others! They wanted a business for themselves!

At their fingertips was a wonderful opportunity! Their years of experience, knowledge of trends, and long lists of contacts put them in an excellent position to be independent buyers. But they lacked enough capital to start with—or any means of getting it. Where could they turn?

Within a few months, these men were doing a $1,000,000 business! For JAMES TALCOTT, INC. with characteristic liberality guaranteed their purchases—enabling them to do a large volume, on a very small capital, and drop ship the merchandise directly from their suppliers to their customers.

Because it is the policy of JAMES TALCOTT, INC. to *work out* a method of handling any reasonable deal, these men today have not only a rich, independent future . . . but they are running their business without interference and without sharing the profits.



Why James Talcott, Inc. is America's Liberal Factor. Almost a century of experience in all types of financing and factoring, involving over one billion dollars, has shown us how to solve any business financing problem, especially where liberality is important. Such an understanding viewpoint means more profits to Talcott clients.

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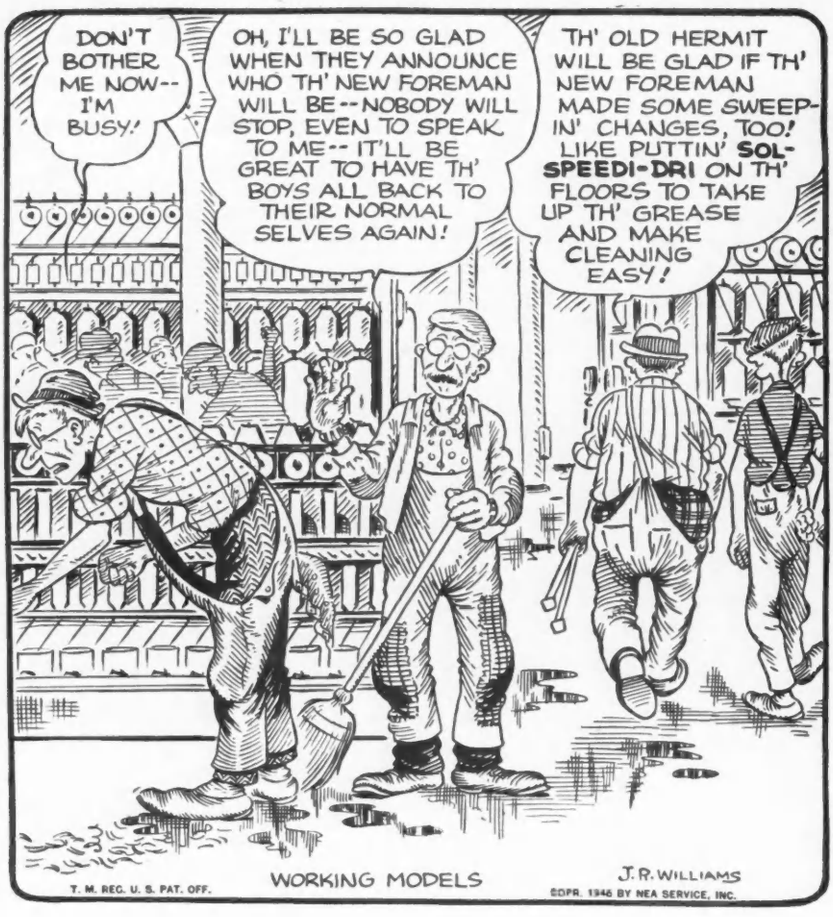
OUT OUR WAY


DON'T BOTHER ME NOW-- I'M BUSY!
OH, I'LL BE SO GLAD WHEN THEY ANNOUNCE WHO TH' NEW FOREMAN WILL BE--NOBODY WILL STOP, EVEN TO SPEAK TO ME-- IT'LL BE GREAT TO HAVE TH' BOYS ALL BACK TO THEIR NORMAL SELVES AGAIN!
TH' OLD HERMIT WILL BE GLAD IF TH' NEW FOREMAN MADE SOME SWEEPIN' CHANGES, TOO! LIKE PUTTIN' SOL-SPEEDI-DRI ON TH' FLOORS TO TAKE UP TH' GREASE AND MAKE CLEANING EASY!
WORKING MODELS
J. R. WILLIAMS
T. M. REG. U. S. PAT. OFF.
COPR. 1946 BY NEA SERVICE, INC.

THERE'S A *SWEEPING* CHANGE WHEN YOU USE SOL-SPEEDI-DRI

SOL-SPEEDI-DRI absorbs oil- and grease-deposits as a blotter absorbs ink. It puts a carpet of safety underfoot . . . makes floors safe for walking . . . safe for working. In time, SOL-SPEEDI-DRI will take up even ancient deposits . . . leaving floors as clean as an old maid's kitchen. In addition, with SOL-SPEEDI-DRI on the floors, the danger of flash-fires is reduced . . . for SOL-SPEEDI-DRI will not readily burn, even when oil-soaked!

No complicated machinery . . . no trained personnel . . . is necessary to use SOL-SPEEDI-DRI. One man to spread it around . . . the same man to sweep it up. That's all there is to it! SOL-SPEEDI-DRI is economy-wise . . . because it releases cleaning-personnel for more productive work. It's production-wise . . . because it keeps men on the job . . . free from the hazards of slips and falls.

SUPPLIERS:

East—Safety & Maintenance Co., Inc., New York 1, N. Y.

South, Midwest & West Coast—Waverly Petroleum Products Co., Philadelphia 6, Pa.

Get the full story of SOL-SPEEDI-DRI today. Just write "SOL-SPEEDI-DRI" across your letterhead or business card for complete details and a free, generous sample.

UL

SOL·SPEEDI·DRI

OIL AND GREASE ABSORBENT

overhand knot (the one in the yarn from the left hand) tight and then drawing the half hitch against it. *(R-252) Chas. S. Bicksler, Lancaster, Pa.*

Produced Ramie Yarns For Over 40 Years

The following is from the Yorkshire Ramie Spinning Co., Ltd., of Bradford, England:

We have read with interest the report on ramie published in your issue of December, 1945, and, as this report seems to us to be to some extent unfair to the fiber, we should like to take this opportunity of setting forth our views as practical handlers and spinners of ramie.

First of all, although the name of this company does not appear in the list of "men and firms who have worked with ramie," we would like to point out that the governing director of this company, Percy C. Aykroyd, has successfully produced ramie yarns for well over 40 years; and, while we agree that there have been many enterprises which have sprung up and disappeared during the time this fiber has been processed outside the Far East, we would ask you not to overlook the fact that the firms such as ourselves and the Erste Deutsche Ramie Gesellschaft have become firmly established, although we have reason to believe that the German plant suffered severely from bombing. Our output takes the form of yarns, threads, sliver, and noil.

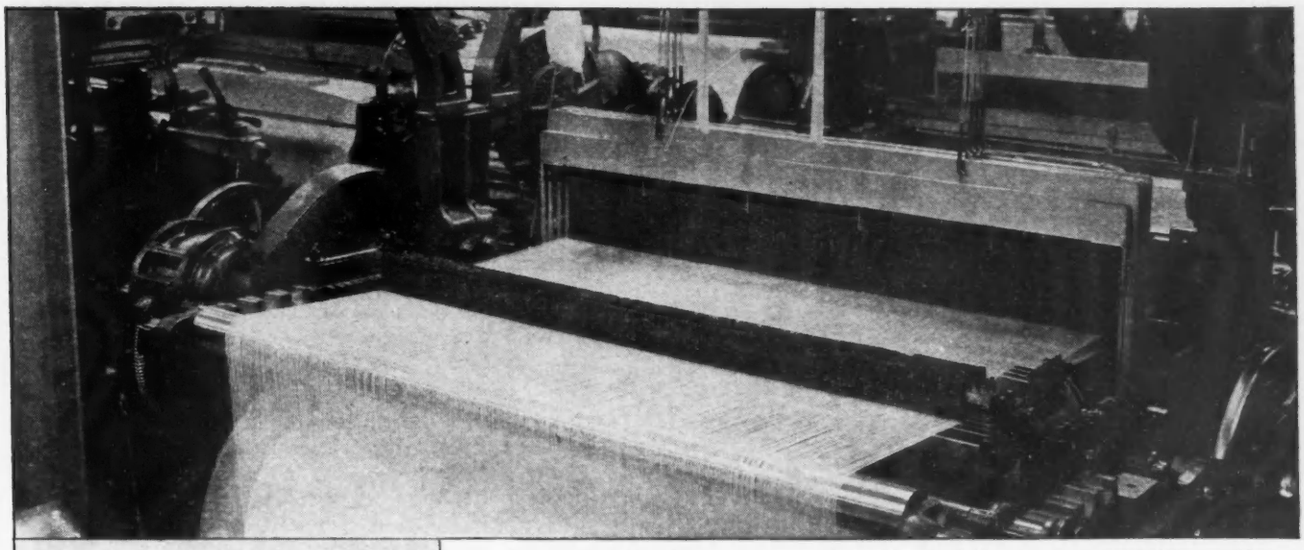
We are selling our yarns in increasing quantities for damask, moquettes (for upholstering furniture and motorcars), lace, machinery cloths, shoe threads, fishing lines, gas mantles, women's knitted dresses, dry battery manufacture, fire hose (rubber-lined and non-lined), filter cloths, shirtings, dress materials, table cloths, serviettes, etc. The sliver (or top) is used for making straw hats, and the noil for blankets, sponge cloths, high quality paper, and a very strong mule-spun yarn suitable for carpet backs. During World War II, we turned out approximately 2,000,000 lb. of yarn for parachute cords, and approximately 500,000 lb. of yarn for fire hose for civil defense.

We are proud of our record in developing ramie, and we consider also that a great deal of credit is due to ramie fiber for the part it played during the war.

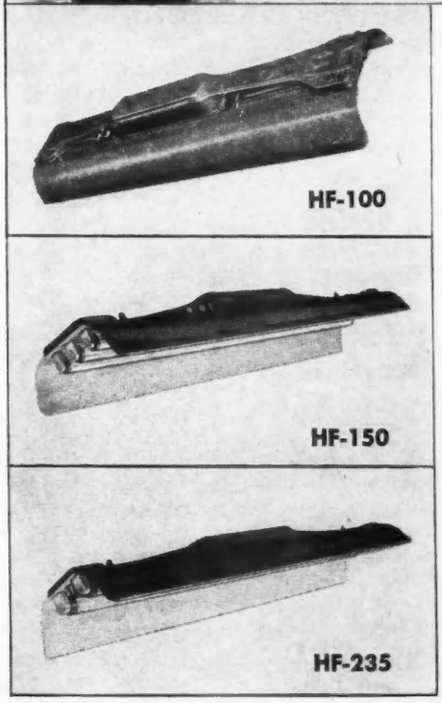
We consider ramie on its own merits as a separate textile fiber and not as either a substitute for, or a useful blend with, any other textile fiber. *(R-288) J. H. Armistead, secretary.*

SYLVANIA NEWS
TEXTILE EDITION

JULY *Prepared by* SYLVANIA ELECTRIC PRODUCTS INC., Salem, Mass. 1946



Typical textile plant operation. Note sharply defined warp and high over-all illumination of working area—accomplished only through virtually glarefree fluorescent lighting. *(Photo courtesy Montgomery Crawford.)*



HF-100, 100-watt fluorescent fixture; complete with 2 Sylvania 40-watt T-12 lamps and auxiliary equipment.

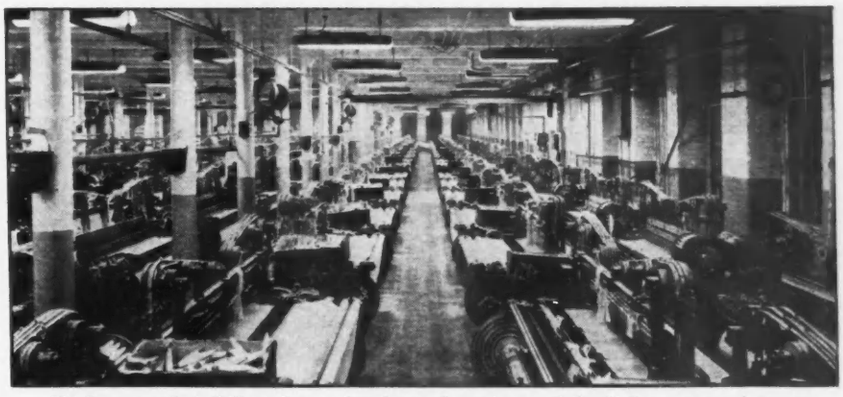
HF-150, 150-watt fixture; 3, 40-watt lamps. Completely equipped. As with HF-100, may be used for continuous row lighting.

HF-235, 235-watt completely equipped fixture. 110-125 volts or 220-250 volts, 60 cycle, A.C. Continuous row feature.

Sylvania Fluorescent Fixtures Light Way To Profitable Working Conditions

Good lighting—Sylvania fluorescent lighting—means a gain for everyone concerned, *especially in the textile industry*. First, the worker is healthier, subject to fewer risks, is less tired at the end of the day. Secondly, these factors make for *more efficient production* and *better quality* of work.

Scientifically designed industrial fluorescent fixtures (shown in column at left) definitely light the way to *profitable* working conditions!



High general visibility, here, simulates that of actual daylight—a must factor for ideal and profitable working conditions. (Photo courtesy Dayton Mills.)

SYLVANIA ELECTRIC

MAKERS OF FLUORESCENT LAMPS, FIXTURES, WIRING DEVICES; ELECTRIC LIGHT BULBS; RADIO TUBES; CATHODE RAY TUBES; ELECTRONIC DEVICES

"THROUGH THE MILL"

ADDING SPICE to conversation or writing are those picturesque phrases that conjure up a graphic image.

None draws a more vivid picture of competency than "through the mill".

Though it may have originated in some other trade, it is aptly applied to men who have painstakingly learned the ways and means of producing and distributing cotton textiles.

We, and the mills which we represent, have indeed been "through the mill".

We have seen and experienced a gamut of changing conditions in raw materials, in processes and production, in personnel relations, in methods of distribution, in credits and finance. Together we have met supply and demand at every point in the economic cycle.

Yet we have always remembered that blind adherence to past principles may lead up dangerous alleys. For which reason, we constantly refresh ourselves on every phase of our often intricate, always interesting business. And keep watch that new conditions are anticipated.

Perhaps *your* future plans call for the services of selling agents who are old in experience and young in vision; who have not only been "through the mill", but who see what lies beyond the gate.

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Selling Agents, 40 Worth Street, New York City

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Questions AND Answers

Dry Carbonizing Has Advantages For Wool

Technical Editor:

Can you give us some information in regard to the advantages of dry carbonizing woolen fabrics? (9112)

It is assumed that dry carbonizing refers to the use of hydrochloric-acid gas instead of a sulphuric-acid solution. The dry process of carbonizing is not widely used on woolen fabrics, but there are a number of shoddy mills which do use it.

Some interest has been aroused in using hydrochloric-acid gas for piece-goods carbonizing, and a limited amount of experimental work has been undertaken in regard to it. Some of the advantages in using it are: it is less damaging to the wool fiber, and it has less effect on dyed material. One disadvantage is the necessity for procuring metal equipment which can withstand the excessive corrosive action of the hydrochloric-acid gas.

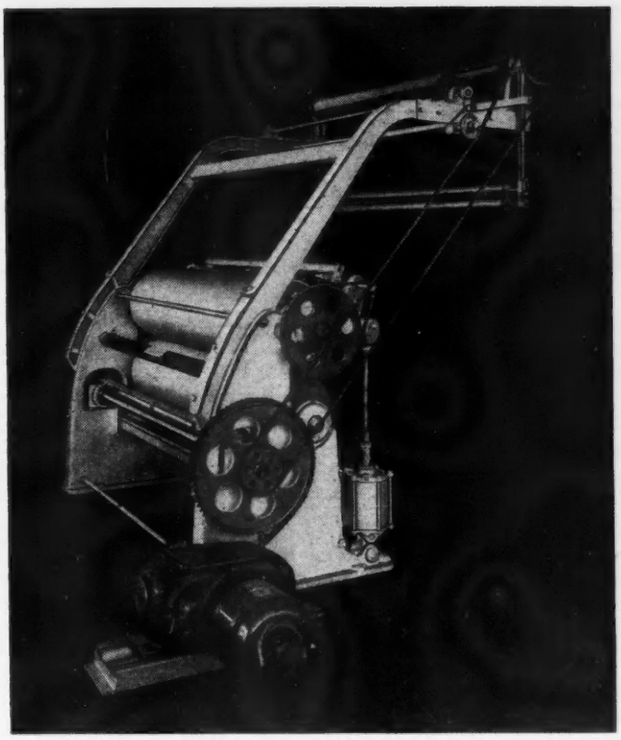
Odor in Finished Cloth Due to Improper Processing

Technical Editor:

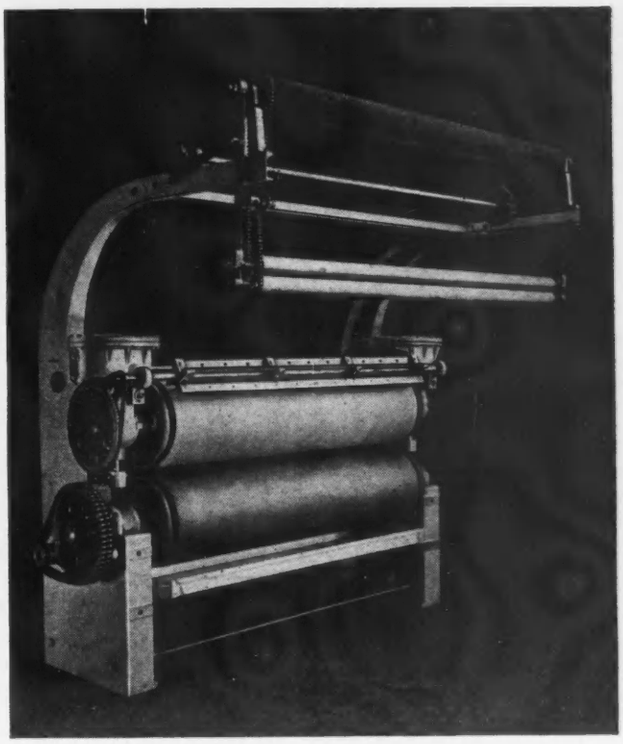
The inclosed sample of dress goods has a distinct formaldehyde odor. Our laboratory has performed various tests—including having a sample of the fabric dry cleaned—to determine whether or not the odor will still be present when the fabric reaches the consumer. Can you advise us how to remove the odor from the goods we have on hand and how to avoid a similar odor in the future? (9114)

Both the warp and filling yarns of the sample fabric are two ply, one ply being of combed cotton and the other of spun rayon. The cloth is dyed with direct or commercial colors.

While commercial colors are generally considered the cheapest and the least fast as a group, by proper selection—especially in light shades—their fastness to washing and light prove to be quite satisfactory in service. With fabrics of this construction, it is the practice to treat them in finishing with urea-for-



Pneumatic Cloth Squeeze Rolls with variable motor drive and built-in driven folder.



Hunter Pneumatic Squeeze Rolls. Pressure applied to top roll thru air cylinder mounted at top of unit.

FOR BETTER AND MORE UNIFORM EXTRACTION OF MOISTURE

Specify

HUNTER PNEUMATICALLY CONTROLLED PRESSURE EXTRACTORS

When a plant seeks more uniform extraction with a higher percentage of moisture removed from all woven fabrics, without sacrificing continuous or straight line production, the economical solution will be found in the new Hunter Pneumatically Controlled Squeeze Rolls.

This new model may be used as a separate unit, in combination with a Scutcher, in continuous cloth carbonizing or washer lines, or on tracks in wet finishing rooms. It is particularly adaptable for use directly in front of cloth tentering lines.

It is adaptable to any woven fabric, either flat or pile type, on cottons, rayons, woolens, worsteds and blended or manipulated fabrics. It requires less horsepower to operate than any other extraction equipment. For example, 5 H.P. against 20 H.P. for the average vacuum extractor. In keeping with modern machine design, it is streamlined, with an eye to appearance as well as utility. On comparative test with other methods of extraction, that is, vacuum extractors or centrifugals, it has shown notable advantages. For example:

On cotton plushes at relatively high speed of cloth travel, it has shown extractions of 48 to 52 per cent, figured on the bone-dry basis. These figures are 30 per cent better extraction than shown by a vacuum extractor running at the same speeds. Furthermore, it has shown no more "pile flattening" on plushes than the vacuum extractor or the centrifugal type.

In cloth carbonizing lines, where uniform as well as a high percentage of acid extraction is imperative, this unit has shown marked improvement. This improvement in extraction holds true for fabrics ranging from 7 ounces to 40 ounces per lineal yard.

For full details, write for bulletin and other illustrative data.

JAMES HUNTER MACHINE CO. NORTH ADAMS MASS.

JAMES HUNTER MACHINE CO.

NORTH ADAMS, MASSACHUSETTS, U.S.A.

FOUNDED 1847

A Pyrene Vaporizing Liquid extinguisher located near every fire hazard—electric equipment, machines, diesel engines, flammable liquids of all kinds—catches the fire before it's too big to handle, and you've made a long step toward protecting your whole plant. Big fires are born little fires—quick action stops them, keeps them from spreading. The Pyrene Vaporizing Liquid extinguisher is a quick-action extinguisher, instant protection for all fires in incipiency, especially suited for electrical and flammable liquid risks. A non-conductor, it smothers fire with a thick cloud of oxygen-excluding gas, does not injure equipment.

For ordinary combustible materials, wood, paper and textiles, a Pyrene Water-Type extinguisher fills the requirement. Operated by a gas cartridge, it is standard for offices, buildings, plants and stores. For locations subject to freezing temperatures, Pyrene Anti-Freeze extinguishers are effective at —40° F. Neither type requires annual recharging.

Standardize on Pyrene Protection. Control of fire in all its phases has been Pyrene's business for almost 40 years. There are specific Pyrene Fire Extinguishers for different classes of fires. A Pyrene jobber will be glad to help you determine your fire hazards and advise best methods for protection from them.

If you have a special hazard, or plan expansion or doubt the effectiveness of your present system, consult your Pyrene jobber or let our engineers help you.

Pyrene

Pyrene Manufacturing Company
NEWARK 8 NEW JERSEY
Affiliated with the C-O-Two Fire Equipment Co.

maldehyde or melamine-formaldehyde resins, either of which treatments gives resistance to wrinkling and stabilizes shrinkage or stretch.

This fabric has been treated with a urea-formaldehyde resin. The application of these resins requires very careful concentration and control of time and temperature. Also, the resins must be heated to a high temperature for polymerization or curing. Here again, time and temperature are critical factors in obtaining proper curing. After resin application, the fabric should be soaped and neutralized with alkali to remove acidic decomposition products released during curing. If these operations are not carried out exactly, it is possible that resin-treated goods may develop a formaldehyde odor in storage. There is little that a fininshing plant can do to correct this condition. Once the resin is applied, whether properly or improperly, it is rather permanently fixed to the fiber.

In a complex operation such as this treatment, it is possible at times that a finisher may not have exactly the right conditions and fabrics will develop an odor over a period of time. Sometimes this odor development is a latent one, and an accelerated test made on the goods when shipped will not indicate anything wrong. When goods treated with resins that are not properly cured or neutralized are discovered by the processor before leaving the plant, he sometimes can correct this condition by recuring or resoaping or both.

As regards this particular sample, the removal of the odor presents a difficult problem. It is quite possible that if the cloth is immersed in cold water containing 0.1 to 0.2% perborate of soda and allowed to dry at room temperature with the perborate in it, the formaldehyde odor will be minimized. It would be advisable to test this treatment on a small piece. The cloth is dyed with colors that may not be too resistant to the perborate of soda, and the shade may be affected.

Quality of Yarn Decides Task Assignment

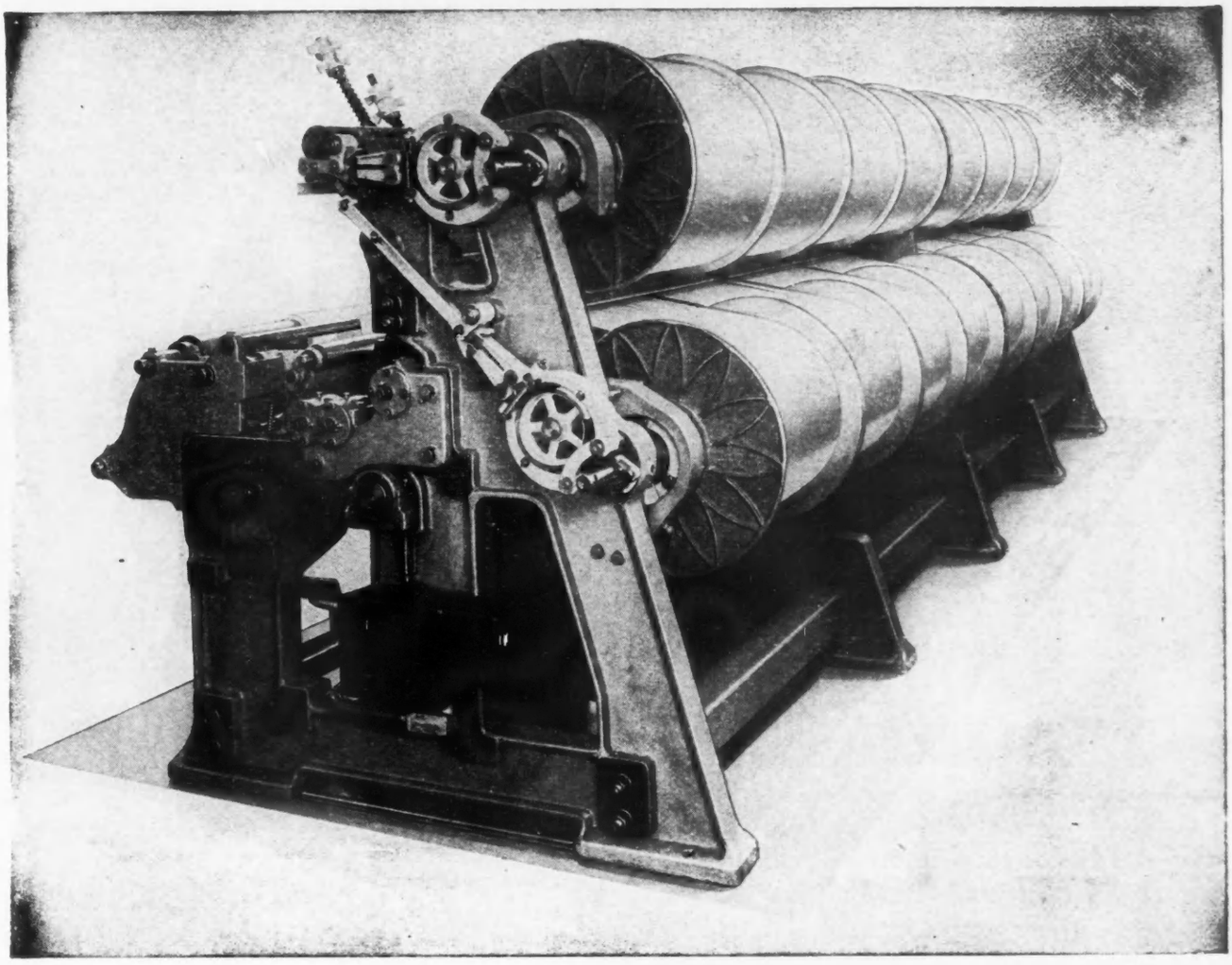
Technical Editor:

In our spinning department we are running both carded and combed yarns of medium and medium-fine numbers. We creel double for both types of yarn. The frames running combed yarn are equipped with overhead cleaners, but the frames on carded yarn are not equipped with them. We use roll pickers on the combed-yarn frames, but on the carded-yarn frames the spinners do their own cleaning.

At present we are studying our spinner and cleaner set-up to see if we can improve

THIS New REINER high speed TRICOT MACHINE—Model RT-1

is now in successful operation in leading knitting mills throughout the country



demonstrating its superiority, unexcelled speed, and quality of production.

Speed, economy, safety, and ease of operation have been stressed and welded into a harmonious whole. You may inspect this machine in our showrooms under actual mill conditions, so that you can see, judge, and compare for yourself.

This American-made machine takes 21 inch flange diameter beams, also the conventional 13¾ inch flange diameter beams. Knitting width 168 inches or 84 inches—28 gauge (English) or to your specifications. Pattern wheel or chain link drive.

Reiner also offers warping equipment to take up to 24 inch flange diameter beams in all commercial widths. Ask for special folder.

To buy Reiner products means ready access to a fully interrelated line of machinery and their replacement parts—it means advice and services by Reiner experts—in short the fullest backing of an organization that has pioneered in the field of textile machinery since 1903.

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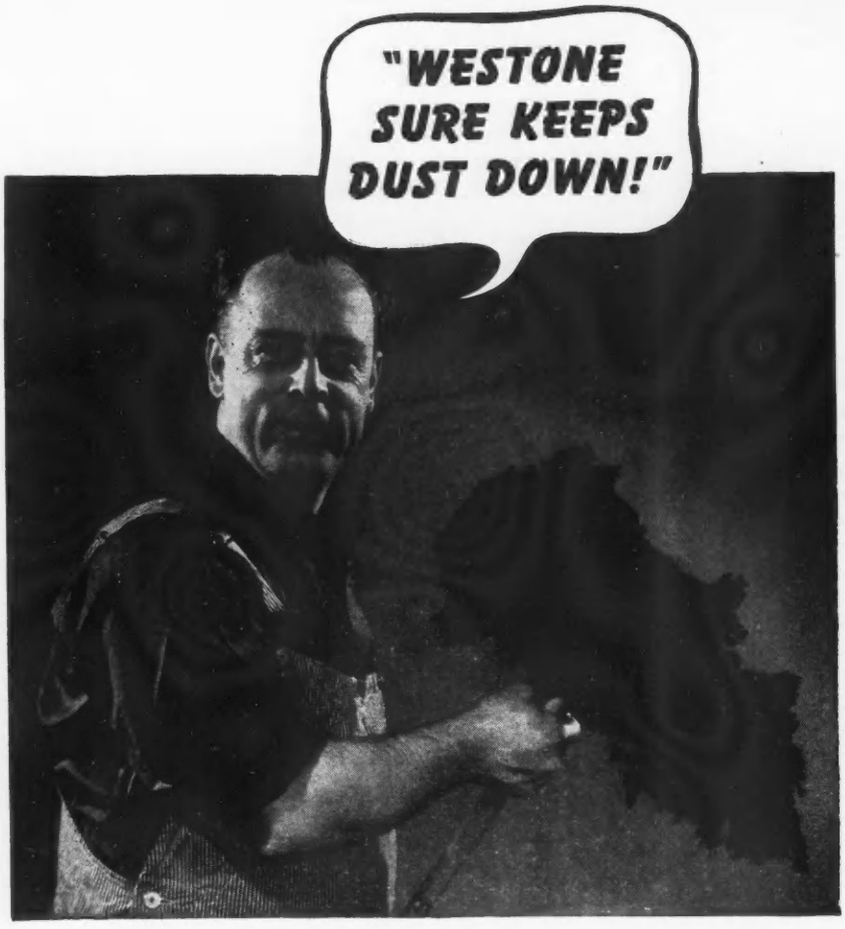

HOW WESTONE CONTROLS DUST

Floor traffic is one of the main causes of dust in room atmosphere, and continuous traffic never gives the dust a chance to settle. Even open windows do not contribute as much atmospheric dust as does floor traffic. Westone has, in addition to its other properties, a peculiar *affinity for dust* and where it is properly used to maintain a floor, the atmosphere will be comparatively free from it because foot traffic will not cause the dust to rise.

WESTONE, the liquid chemical floor treatment simplifies floor maintenance problems. It continually improves floor appearance, penetrates rapidly and evenly and *actually seems to become part of the floor material itself.*

WRITE FOR ILLUSTRATED LITERATURE

WEST DISINFECTING Company

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our method on either combed or carded yarn. Can you give us a representative layout for the job loads of spinners and roll pickers on 40s combed and carded yarns spun under the conditions outlined? (9116)

There are so many variables in manufacturing conditions of different mills that it is almost impossible to give a general layout which will apply to a specific spinning room. Such factors as grade and staple length of cotton; quality of opening, picking, and carding; and quality of finished yarn required influence the amount of cleaning—and therefore the assignment of cleaning and spinning tasks—which must be done.

However, one mill successfully running 40s combed and carded yarns uses the following schedules (based on a 40-hr. week):

Operation	Combed	Carded
Overhead cleaners	Yes	No
Cotton staple (in.)	1 1/16 to 1 1/4	1 1/16
Spinner (No. sides)	26	11
Run out guides (times per shift)	3	4
Clean Scavenger rolls (times per doff)	1	2
Roll Pickers	Yes	No
No frames	8 to 10	....
Pick steel-roll stands (times per wk.)	2	2
Wipe steel rolls (times per wk.)	2	2
Brush top clearers with bristle brush (times per wk.)	1	1
Pick top rolls (times per wk.)	5	5
Pick steel rolls (times per wk.)	5	5
Wipe roving and creels (times per wk.)	1	10
Wipe out backs, weights, guides (times per doff)	1	2
Brush ring rail (times per doff)	1	1
Wipe ring rail (times per diff)	1	2
Wipe bolsters and rails (times per doff)	1	2
Pick top clearers (per shift)	3	4

Faulty Warp Yarn Causes Streak in Fabric

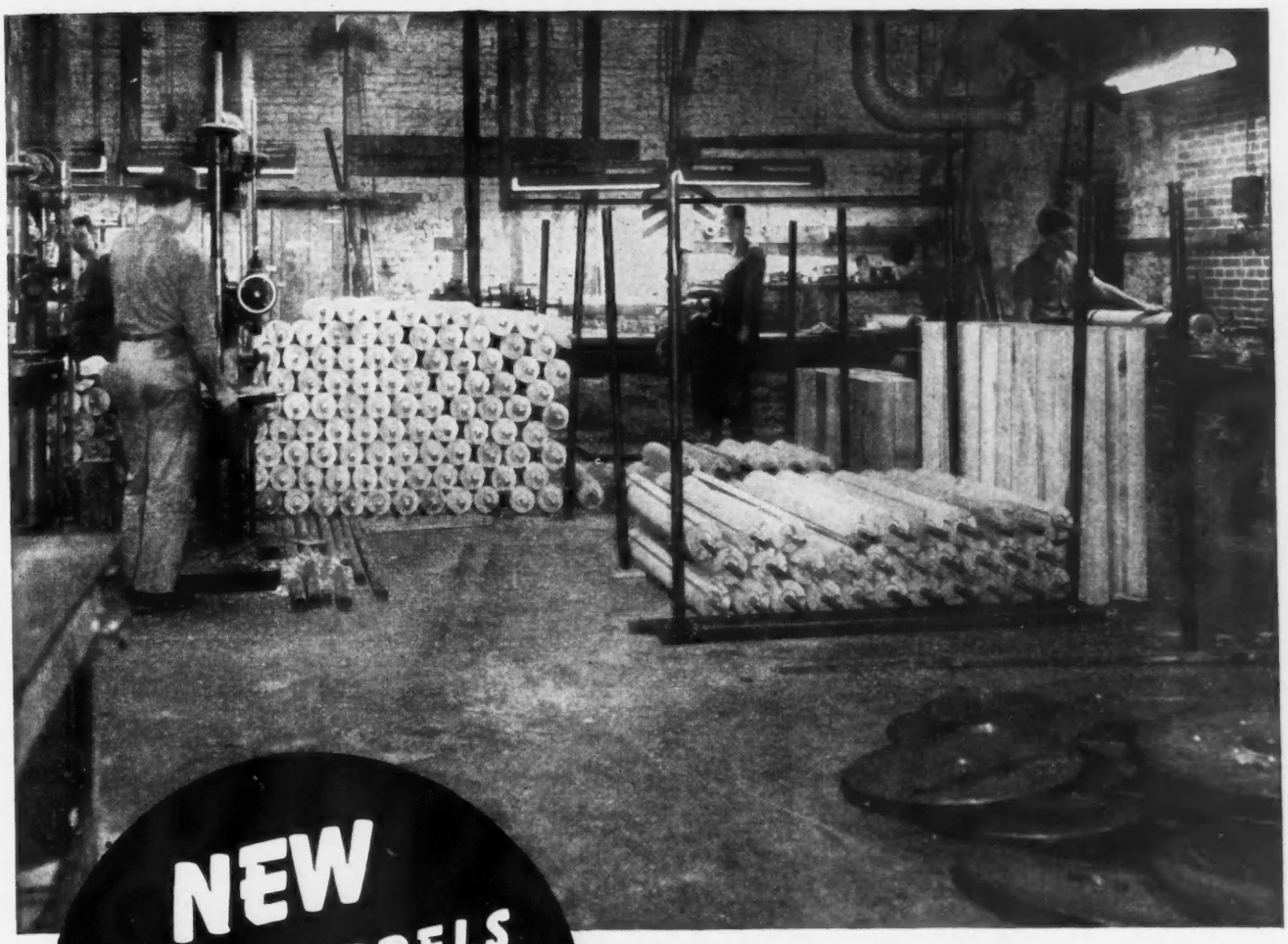
Technical Editor:

I am sending you two samples of cloth with streaks in them. If you hold the samples up to the light, you cannot see the streaks; but if you lay the cloth down, you can readily see the flaws.

There seems to be no definite pattern for the cause of these defects. A loom will produce flawless cloth for a period of time; and then, without any change having been made, the same loom will weave cloth in which these streaks appear after the finishing processes. We have traced the defects to several looms, and we have checked the looms in every way that we know.

All of our reeds are new, and the cloth is reeded 84 in. and finished 60 in. (9115)

Streaks of this sort usually result from chafed or mixed yarn, and these conditions may be caused by a number of different things and at a number of different places. The best corrective procedure would be to use the process of elimination. Since the streaks in these



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Replace old, worn beam barrels with new barrels that will increase operation efficiency and save waste. West Point Foundry and Machine Company manufactures beam barrels of the finest woods available—expertly machined—carefully seasoned.

Switch to larger beam heads and cut time required for slashing, tying-in, and placing beams on the loom. Larger beam heads soon pay for themselves by cutting cost and speeding operations.

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At the base of CANTOL BELT WAX is the pure vegetable wax of the Mexican Candelilla ("Little Candle") plant. It is Candelilla wax, properly combined and blended with other ingredients, that has brought preference for CANTOL among belt users everywhere.

CANTOL increases traction, belt life, power. Stops slippage. Fills pores, seals against foreign matter, won't lump. Penetrates, preserves, moisture-proofs. Contains nothing injurious, no resin, no grease. Keeps belting pliable in any atmosphere—under all conditions.

Cantol Belt Wax is a product of

CANTOL WAX COMPANY, Bloomington, Indiana

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CANTOL BELT WAX is sold through distributors and dealers. There are dependable CANTOL representatives in every state in the nation.

samples appear to run in a straight line and similar marks caused by finishing machinery usually have a wavy appearance, it is not likely that the fault lies in the finishing department.

The looms weaving this construction should be examined to make sure that there are no tight heddles, quarter hooks, or other condition which might chafe the yarn. Reed marks usually show as a light and heavy line which can be seen by through-lighting. Such marks will occur if a group of heddles is crowded or held out of line by the drop-wire supports or harness hooks in such a manner that the heddles are held sidewise as the ends are pulled through in weaving.

The possibility that the present trouble is caused by a warp end of different stock, count, or twist should not be overlooked. It appears from the samples that the trouble is caused by only one warp end. Warp yarn can become mixed in spinning, winding, spooling, or dressing. A cracked porcelain eye in spooling or warping could chafe the yarn and cause a mark of this sort.

Ordinarily, the fibers of a yarn chafed in a process prior to slashing will be sufficiently held by the sizing to prevent warp streaks. However, if the chafing is extensive enough to affect considerably the diameter of the yarn, the slashing operation may deliver a broad, flat yarn which can show up as a defect in the finished fabric.

Weavers Need Help In Replacing Broken Ends

Technical Editor:

We are having a considerable amount of trouble in our weave room because our weavers, many of them not first-class, of course, are not always able to follow the warp draw when tying in two or more threads that break side by side. Can you give us some basis for applying a draw to a design layout? The constructions with which we have trouble are decorative fabrics woven with as many as eight harnesses. (9103)

There are several things to consider when applying the draw to a layout. First, the draw must be arranged for the easiest running of the warp in the loom; and second, it should be laid out for ease in following. The conditions that help the weaver also help the drawing-in operator.

Probably the best way to lay out a draw is to have the ends follow each other, either to the right or left, with as few long jumps between ends as possible. If the basic draw is one to eight, any breaks in the weave should be shown to run in the same direction, such as 1-2-5-7 rather than 1-2-1-3, or

Meet the need!

make still more garments . . . with union special machines

FORESTALL shortages! Civilian wardrobes are wearing thin. Union Special machines are your greatest allies. Designed for a wide variety of industrial sewing uses, Union Special machines produce uniformly high quality work with low maintenance costs and with high rates of production. Mechanical superiority, based on excellence of design and construction, plays a big role in their dependability under all conditions, whether due to today's abnormal demands or ordinary competition. Consult your Union Special representative when considering a program of improvement for your sewing rooms.

***Union Special* is on the job!**

Despite current production problems, the Union Special factory is establishing an enviable record for the number of machines built and shipped. The present rate of output is above prewar averages and should be further improved with the early completion of additional factory space.

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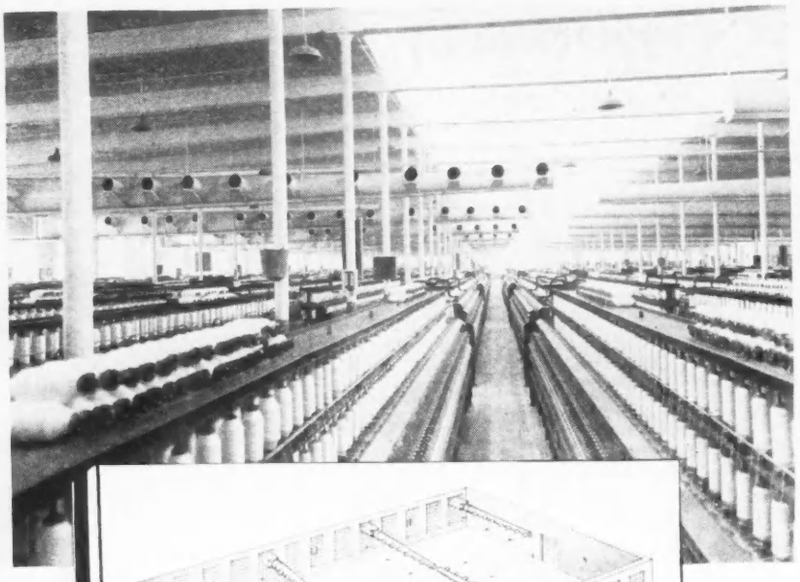
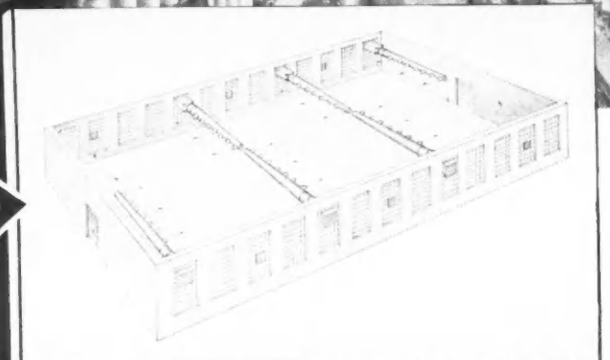
Bahnson Industrial Cooling

WITH POSITIVE CIRCULATION





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as 1-2-3-8-7-6 when reversing the draw instead of 1-2-3-4-3-2-1-8-7.

When drawing warp-yarn breaks, it is advisable to keep heddles on the same harness as well separated as possible, as 1-2-4-6-7-8 instead of 1-2-4-2-3-4. This latter draw would put heddle 4 between two ends running on harness 2; and the usual result of this kind of drawing is that the two ends running on harness 2 act as a knife to the end on harness 4, and any knots that may come up on any of the three ends will only aggravate the situation.

It may be wise to keep any cord ends well back in the harnesses, as this arrangement gives them plenty of room to keep clear of any other threads, ground or decorative, that are running alongside the cord. Finer decorative ends may run better if they are kept at the front.

Not more than 500 heddles should be run on one harness, as more than this number may cause unnecessary chafing of the ends. It is sometimes wise to put fine decorative ends or coarse ends on special harnesses.

At times fugitive tints can be applied to yarns to help the weaver keep his ends separated properly. This tint can be applied at times on single ends or during slashing. Tinting is especially effective when viscose and acetate rayon ends are used in patterns. Of course, there are many instances in which tinting is impractical.

Testing "Conditioned" Lap Yields Incorrect Results

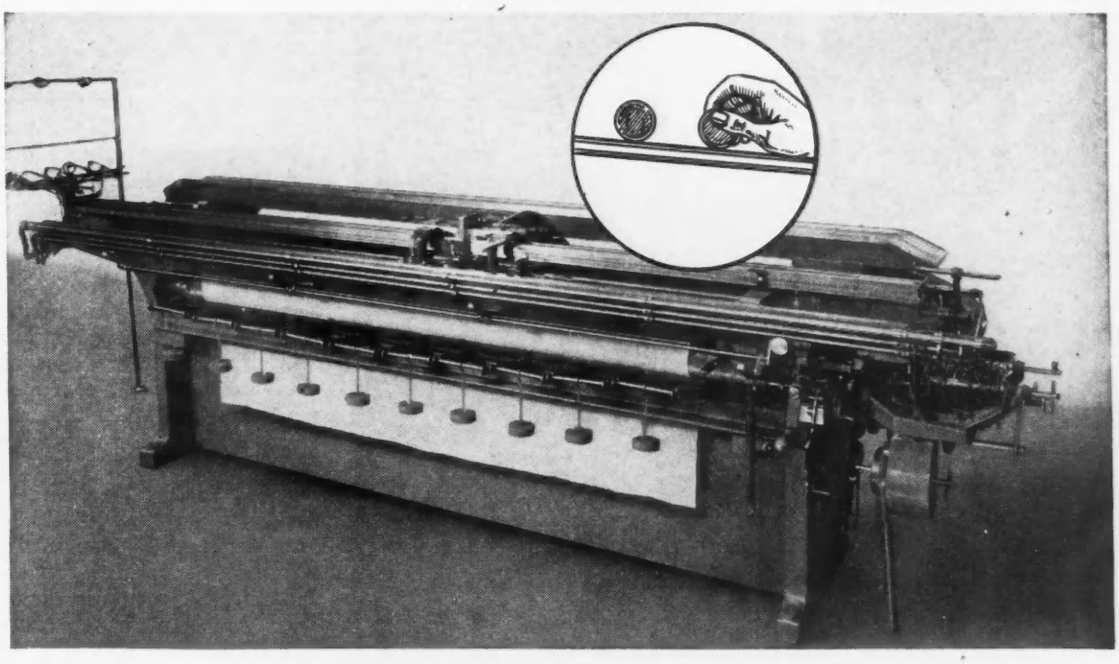
Technical Editor:

In the article "Laboratory Control Improves Mill Operation" [TEXTILE WORLD, May, page 133], the author recommends testing picker laps with the Saco-Lowell lap meter in the picker room instead of in the laboratory. The reasons given for not doing this test in the laboratory are "the size of the lap meter and the difficulty of transporting the laps to the laboratory."

We do not consider these two reasons of sufficient weight to change our present practice of testing laps in our conditioned laboratory. Our procedure is to place the laps in the laboratory, allow them to condition for 24 hr., and test them. By following this procedure, we do not have to correct our picker-room regain to standard regain. Is there any reason other than the two mentioned for testing laps in the picker room? (9117)

There is no reason other than the two mentioned for testing laps in the picker room instead of in the laboratory. However, there is a reason for not allowing a lap to remain in the laboratory for 24 hr. before testing; and to be tech-

PURL STITCH KNITTING MACHINE



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1. Is designed and constructed substantially with steel bases, avoiding all possible vibration.
2. Simple Automatic mechanism.
3. May be operated by ordinary hand knitters with slight power experience.
4. Having simple automatic devices they have the least possible amount of breakdowns, and low cost of maintenance.
5. They are designed to, and can produce the most intricate stitches, such as the cable stitch, braid stitch, flat on flat, open work, herringbone, and others too numerous to mention.

THE NEW VERSATILE HIGH SPEED TRICOT MACHINE

under development since before the war is so designed to withstand speeds in excess of 500 courses per minute in a 180 inch width with an absolute minimum of vibration. Any operator knows what that means translated into quality of the fabric, production and maintenance of the machine.

The new Robaczynski two bar, 26 and 28 gage, Tricot machine has many novel features and improvements unlike any other Tricot warp knitting machine. It will soon be ready for demonstration in our new show room at the plant. Invitations will be mailed, in July, to all who have made inquiry to see this machine in operation.

ROBACZYNSKI
MACHINE CORPORATION
PURL STITCH (Links and Links) and FLAT KNITTING MACHINES

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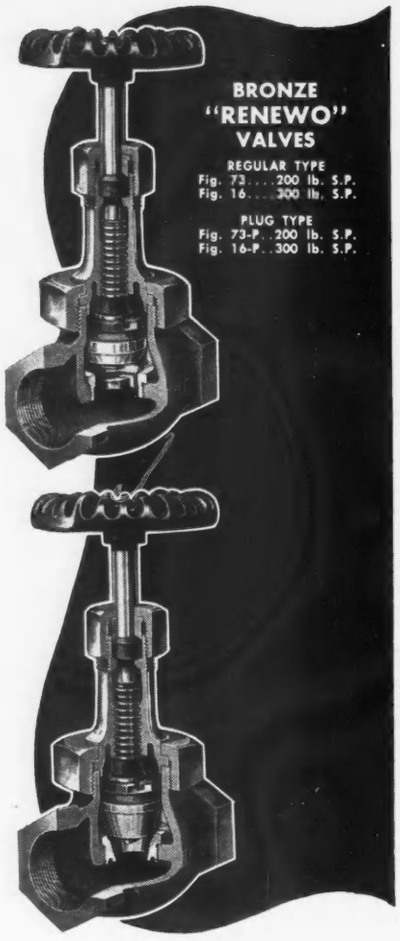

BRONZE "RENEWO" VALVES

REGULAR TYPE
Fig. 73....200 lb. S.P.
Fig. 16....300 lb. S.P.

PLUG TYPE
Fig. 73-P..200 lb. S.P.
Fig. 16-P..300 lb. S.P.

Here's all you need...

to convert a regular type into a plug type valve...

SEATS AND DISCS INTERCHANGEABLE ★

Just insert a plug type seat and disc in place of the regular type, and you change an *entire* Bronze "Renewo" Valve from regular to plug type—providing all the extra advantages of this type, including its ability to stand up under hard service. No other change is necessary. The plug type seat-and-disc combination is made to *fit perfectly* into a regular type valve of corresponding size and pattern. And you have this same interchangeability in Iron Body "Ferrenewo" Valves. You don't have to buy an entire new valve . . . you don't even have to take the valve out of the line.

*Lunkenheimer interchangeability goes still farther. *All parts* of 200 lb. "Renewo" and 150 lb. "Ferrenewo" Valves (except bodies and bonnet rings) are quickly, easily, perfectly interchangeable. Fewer parts are needed; ordering and handling are simplified; repairs are facilitated. You save time, labor, money.

Write for a copy of Circular 567—

IRON BODY "FERRENEWO" VALVES

REGULAR TYPE
Fig. 1021...150 lb. S.P.

PLUG TYPE
Fig. 1021-P.150 lb. S.P.

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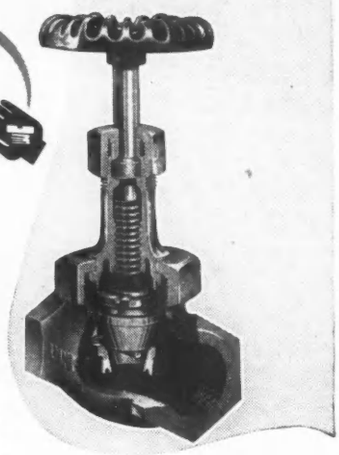
Your nearby Lunkenheimer Distributor will welcome the opportunity to show you actual samples and demonstrate the interchangeability of parts in "RENEWO" and "FERRENEWO" Valves. You'll find it a big factor in increasing efficiency, lowering costs.



THE LUNKENHEIMER COMPANY

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EXPORT DEPARTMENT: 319-322 HUDSON ST., NEW YORK 13, N. Y.

nically accurate, there is also a reason for not correcting picker-room regain to standard regain.

In order to condition a test specimen to its regain at standard conditions, the specimen must be exposed to moving, conditioned air for a sufficient length of time for any given part of the sample to take up or give off moisture until it reaches a stable moisture condition. The amount of moisture the sample contains at this stable condition largely depends upon the processing the sample has had and the form it is in (lap, yarn, fabric, etc.) at the time of conditioning [TEXTILE WORLD, May, page 166].

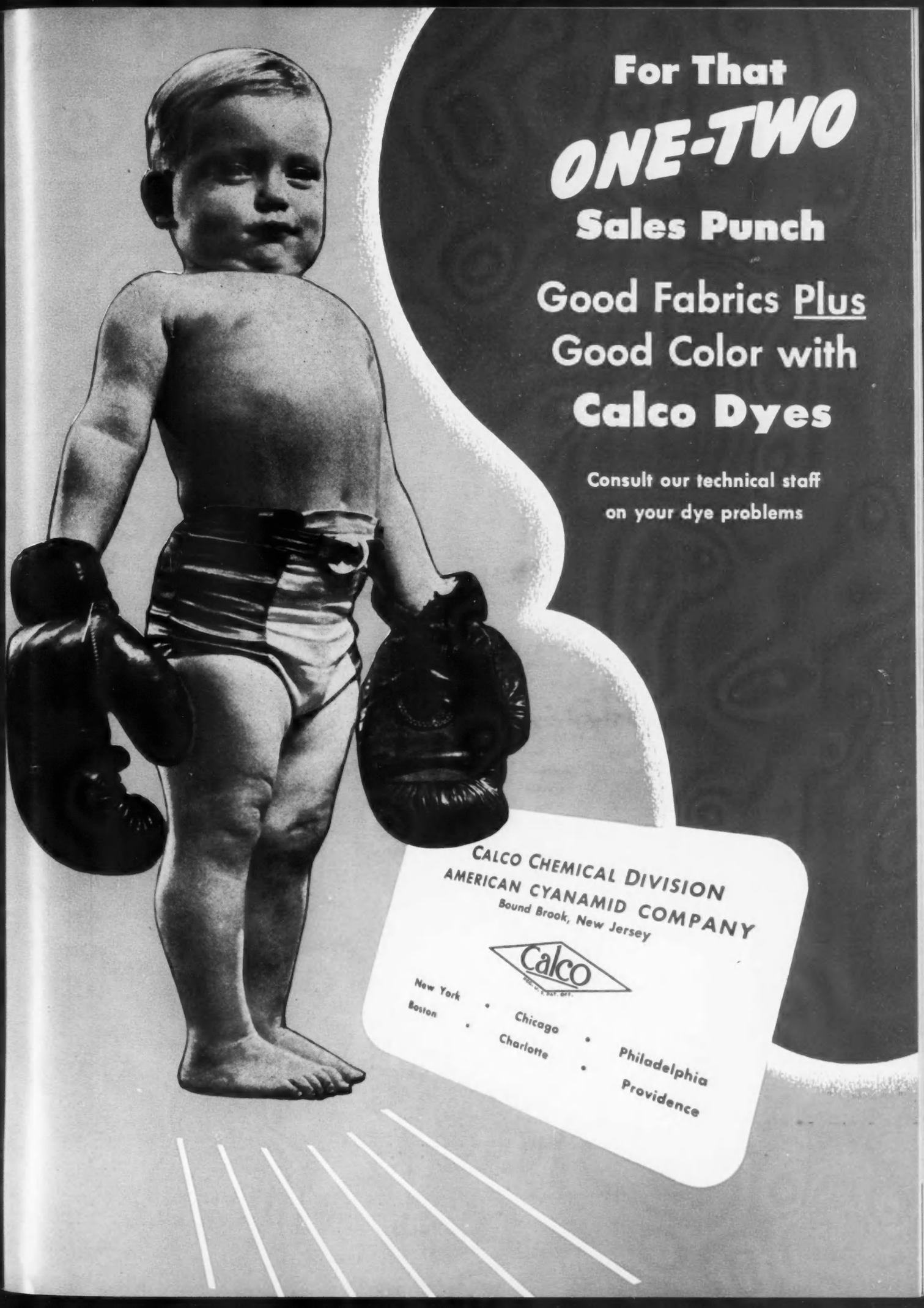
A picker lap, being approximately 40 yd. long and 40 or 45 in. wide and in the form of a roll, will not uniformly condition in a laboratory, regardless of the length of time it is allowed to remain in the laboratory atmosphere. The center layers, being wound tightly and masked by up to about 12 in. of cotton, are not exposed to moving air; and after any reasonable length of conditioning, the cotton in these layers will retain approximately the same amount of moisture it had at the time it was doffed at the picker.

If you will study some of your lap-test charts, you probably will find that as a rule the first few yards of the lap weight heavier than the average weight per yard. This condition is caused by the fact that the cotton in the lap contained less than 7½ or 8% moisture at the time it was brought to the laboratory, and the 24-hr. conditioning raised the moisture content of the first few yards but did not affect that of the rest of the lap.

While it is all right to test the lap in the laboratory, the test should be made as soon as the lap is brought into the conditioned atmosphere.

For practical purposes, correcting picker-room regain to standard regain provides a working measure for comparison. However, the amount of moisture present in the cotton when it is blended in the opener room will have more effect upon the amount remaining in the cotton when it is doffed at the picker than will the regain of the picker room. This condition arises from the fact that the cotton does not remain exposed to the air of the picker room, prior to being rolled into lap form, long enough for its moisture content to become adjusted to the picker-room condition.

In order to control the moisture content of the lap so that exact lap-weight comparisons can be made, it would be necessary to select a specimen from the lap by the pinch method, determine the percent moisture, and correct the yard-by-yard weight to 7½% regain.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Fiber-Array Technique

(*Continued from page 155*)

be the product and the greater the yarn strength. The adoption of long-draft equipment makes a revision of the old conventional formulas for roll setting necessary. Fiber-array diagrams giving all fiber-length details are a great aid to effective roll settings.

LENGTH ANALYSIS. The selection and preparation of suitable specimens are the most important step of the simplified procedure for fiber-length analyses. A fiber array, no matter how well laid, is worthless as an indicator of fiber-length values unless the fibers in the array are representative of the entire test sample.

The test sample should be representative of the bale or group of bales being tested. Small pinches from various parts of the sample should be well opened by combs, freed from matted and tangled masses of fibers, and thoroughly mixed. The small specimen selected for the array should represent a true cross section of this mixture.

In making the array, there are three important faults to avoid in order to obtain accurate fiber-length values: stretch, breakage, and masking of short fibers by long fibers. Any of these faults can so effect test results that untrue values will be indicated.

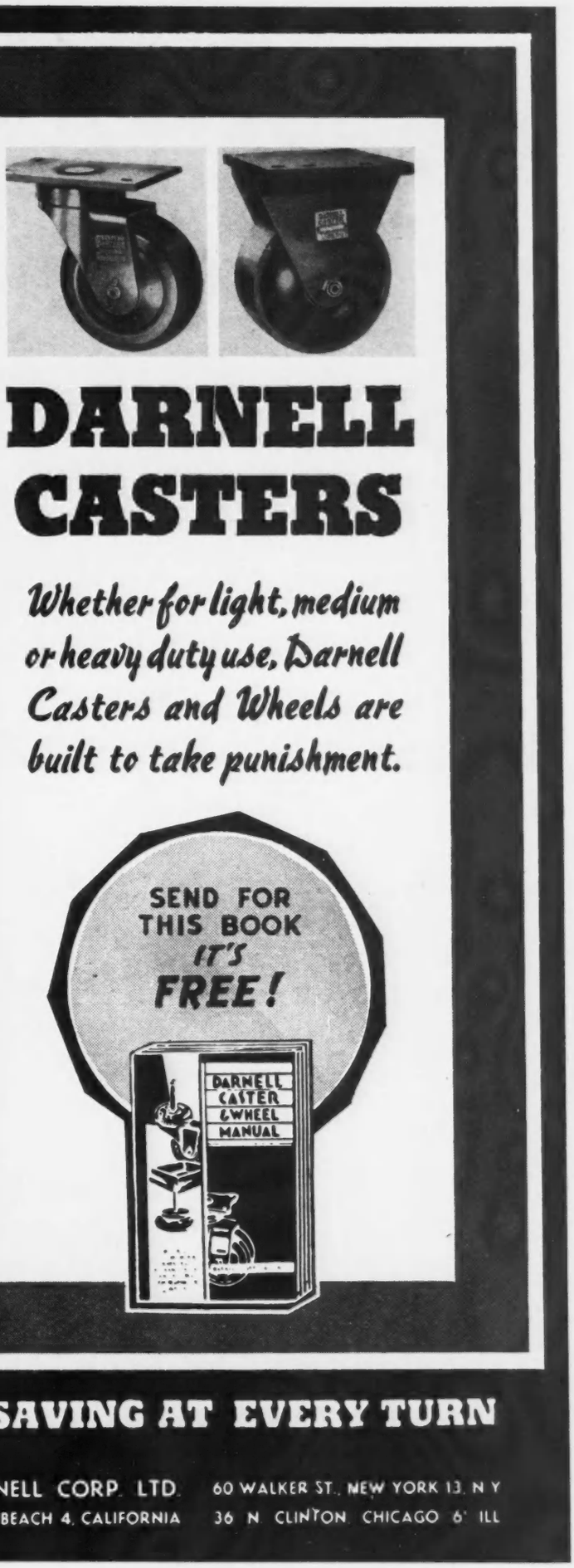
These faults are often hard to detect. A fairly accurate check on improper manipulation may be obtained by making three arrays from three separate specimens taken from the same sample. Any great variation in fiber length at corresponding points in the arrays or in the mean lengths of the entire arrays can be attributed to one or more of the faults mentioned.

Shirley Institute

(*Continued from page 151*)

nificant cases studied were those in which, after separation by the opener, the loose lint and trash were selectively fractionated by the air currents. It is possible for an air current to carry the light fibers of cotton on with the stock and let the trash particles fall to waste. This introduces a second principle of selection between lint and trash, their air flotation. (The first was their clinging power.) Perhaps the most remarkable thing about the practical mill studies was the evidence that this action was so slight and rare, but there were cases where it was marked.

For separation by air flotation, violent turbulence must be avoided and a steady, streamlined flow maintained. Air separation cannot be very effective when the cotton is in lumps, but can be at a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very advance state of opening, or before the cotton is compressed.

The first attempt to utilize the flotation principle was in a machine to separate lint from trash as a measure of trash content. This separation had been done for the first studies by a series of sieves fixed to a lamp glass in which the sample was blown violently against a grid by an air blast. To separate by air flotation, an old roving waste opener was modified to run at high speed which allowed the fully opened material to be carried away in a steady air flow. When this showed promise, the wider possibilities of the principle were evident; and the large resources in a special department at the Shirley Institute were devoted to the development of the principle.

SHIRLEY MACHINES. The first result was the Shirley Analyzer, a remarkably efficient machine to separate lint and trash, and to measure trash content and weight grade. This machine should eventually replace the present method of judging grade by mere appearance. It may be used to measure grade or cleanliness not only of baled cotton but also of waste or cleaned stock and to give this measure in proportions by weight, so that the value of grade and of cleaning processes may be costed.

The latest result of applying the principle of separation by air flotation is the simple modification of the card lickerin which improves cleaning and saves lint. (British patent 567,499)

Another early application of air flotation was in the "Lint Recoverer," which is a simple addition to existing equipment. The efficient recovery of the good cotton in waste does, however, allow for some beneficial change in the use of present machinery. When, as usual, production is pushed up beyond the limits of the really effective action of a machine, the proportion of waste diminishes; but the machine does not do a good job of cleaning. Whenever, to increase production or to save waste, a machine is thus used with low efficiency, lumps or tufts will pass through the machine unbroken. Such tufts not only interfere with the action of the machines, but also constitute an increased burden of cleaning for them.

Thus, it was discovered, that opening should be carried through in a few strong stages, without repetition of similar actions. Production of 250 lb. per hour through each of two openers is preferable from the cleaning standpoint to a production of 500 lb. per hour through both in succession. If then the full power of opening machines is utilized—and it should be—there may be an increase in lint loss.

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the synthetic fibers may force cotton manufacturers to the theory that one should clean the cotton and accept the necessary lint loss. This acceptance would be more tolerable if lint could be easily recovered from waste. One may then think first of the efficient action of the machine, confident in the recovery of any lint going to waste.

This recovery might be made in the picker itself by incorporating the principle of streamline air-flotation in the waste collection. That is the idea behind the "Pneuopener."

Besides separating trash from lint, the flotation of the opened lint in a streamlined air current arranges the fibers fairly regularly, doing in some degree the work of the card. This discovery has led to work on a machine which would eliminate the card, and to work on the sliver-lap machine with fleeces, which may be bonded with thermoplastic powders, or fibers, or coatings.

This discussion refers to work in the cleaning of the trashy product of the cotton fields, which farmers think is good enough for cotton spinners. The spinners are used to it and take it for granted; but there must be many spinners who favor synthetic fibers on account of their 100% purity. Such favor constitutes a challenge to cotton growers, and some growers are wise enough to accept the challenge and to produce a textile fiber 100% pure. The place to do this is immediately after ginning when the cotton is in a very open state and before the trash has been stuck to it by pressure and time.

The goal of better marketing of raw cotton is one of the legs by which cotton may climb out of the pit which threatens it; the other is better fabric design. Cotton will never be saved by chipping cents off the cost of production at the sacrifice of quality and real utility.

Fabric Printing

(*Continued from page 147*)

the color-box to give rise to the type of trouble described.

REGISTRATION. Registration in printing is indeed a primary consideration. Any interference with the set of the cloth on the bowl of a printing machine multiplies the printer's difficulties immensely. Correct tensioning is of particular moment. Many factors, which are introduced in the preparation of the cloth and its passage through the machine, might give trouble here.

In one particular case, a heavy, spun-rayon dress-fabric, which had been scoured and dried over cans preparatory to printing, was ready for batching. When the batches were beamed and put

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Sodium Sulfide	1 to 2%
Sodium Chloride	1% Max.
Other Sodium Salts	1% Max.
Iron	5ppm Max.
All other metals	1ppm Max.
Water of crystallization	28 to 26%

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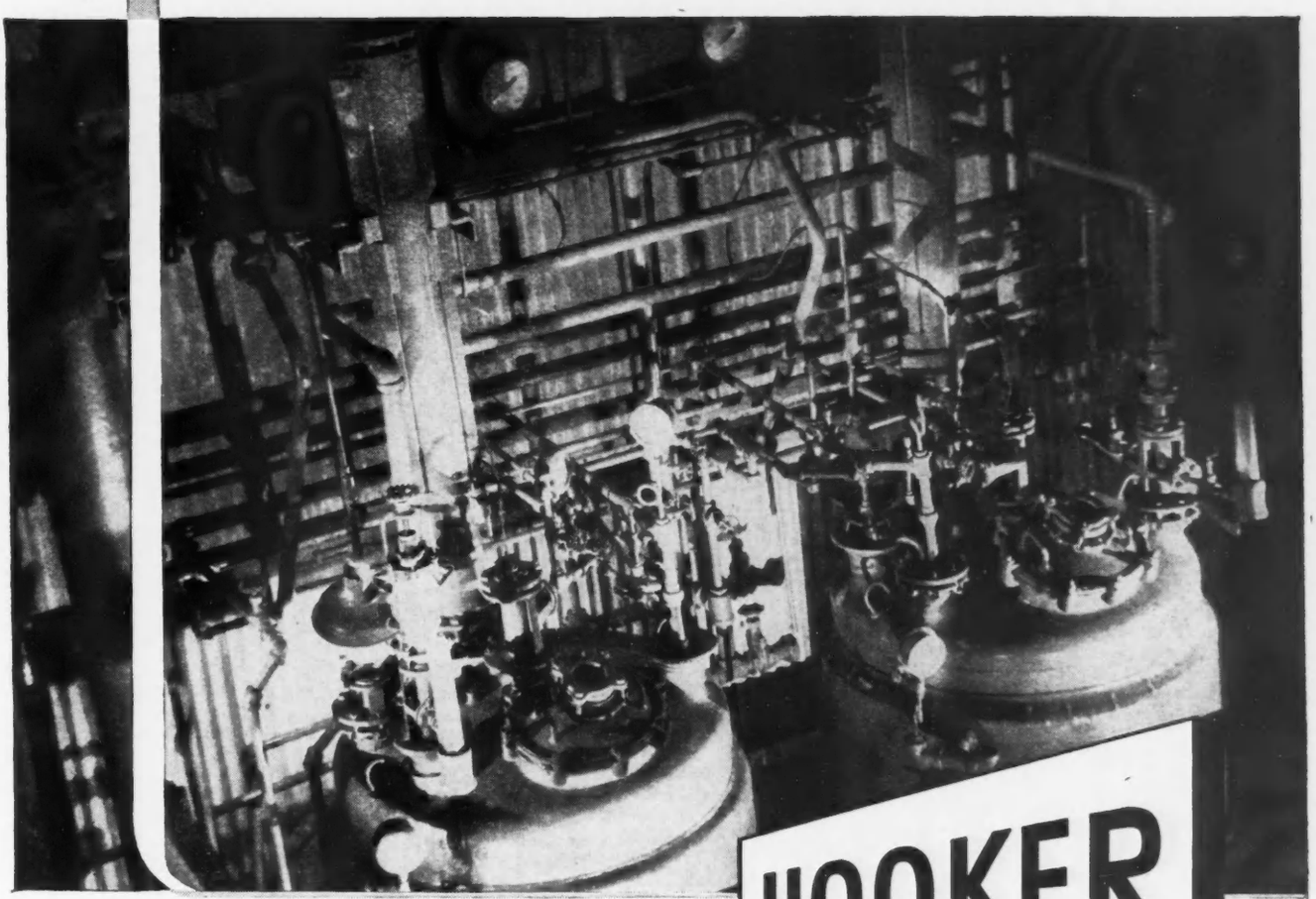

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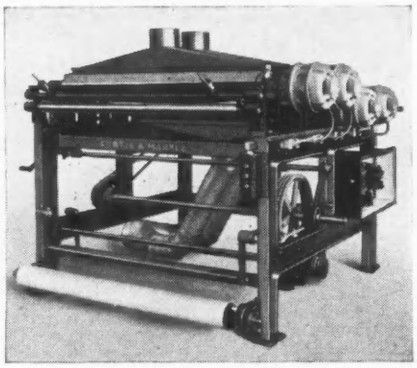

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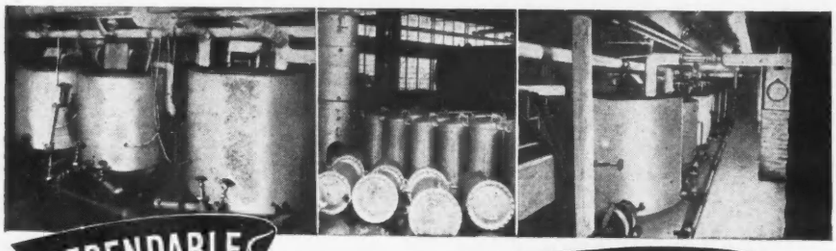

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upon the printing machine, it was found to be impossible to obtain an accurate register of a six-color pattern with a light blotch ground. Irrespective of any alteration in the tensioning arrangement of the printing machine, the problem remained insoluble. The goods were again tentered and run on batching rolls at the delivery end using a considerable amount of tension. When these batches were run, no further trouble was experienced; and perfect registration was obtained. The condition of the cloth prior to the first batching found to be at fault in that it retained a slightly higher degree of moisture and was so loosely piled that it was difficult to obtain a regulated degree of tension on the batching machine.

Tentering for printing is usually performed on any cloth on which the pattern may become distorted during finishing due to the fact that it may have been printed when the filling was crooked. Handkerchief styles, check patterns, woven stripes, etc. are examples of such patterns. Where cloths have a clean, sheer surface it will be found that they may easily be batched at the delivery end of the tenter-frame and taken directly to the printing machine. Such batches will usually give little or no trouble to the printer in registration and running true. This last feature is of particular importance when printing handkerchiefs, tea-cloths, etc. with colored hems, to ensure that the hems are of the right width for stitching and making-up.

BRUSHING AND BEAMING. There are some classes of goods which require further treatment before they are fit for printing. Cloths with fuzzy surfaces to which loose, adhering fibers cling must be treated to have these removed prior to entry into the printing machine. For this purpose, batching or beaming machines are fitted with revolving brushes and shearing blades, and in some cases also with suction fans to draw away the removed fluff, so that it does not fall back upon the cloth.

Cloth which has been batched at the delivery end of the tenter is then rebatched on the brushing and beaming machine. Some cloths may require brushing and beaming several times to insure complete removal of all adhering fluff. Partly attached slubs may become loosened; and, as the cloth passes over the tension rails of the printing machine, these portions may fall into the colorbox causing trouble with the doctor blade as previously described. In the absence of thorough cleaning of the tenter clip-chains, small bits of oily fluff may be blown on to the surface of the cloth. These oily particles are batched up with the cloth and cause oily smears, and resist-marks throughout the prints.

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However, they do not permit their enthusiasm to cause them to make statements which could be misleading. Their statements are based on special economic studies of an area as related to the individual industry considering locating there. If the requirements of the industry cannot be met they will state so frankly and endeavor to suggest an alternate.

Currently the interest displayed in Alabama as an industrial location makes it impossible for them to complete, as promptly as they would like to, economic reports for specific organizations. However, if you are contemplating the establishment of a plant in the South they would be pleased to have your inquiry and will begin the compilation of facts from which you can make a decision. They will undertake this independently but can, of course, prepare a more helpful report if they work in collaboration with your representatives.

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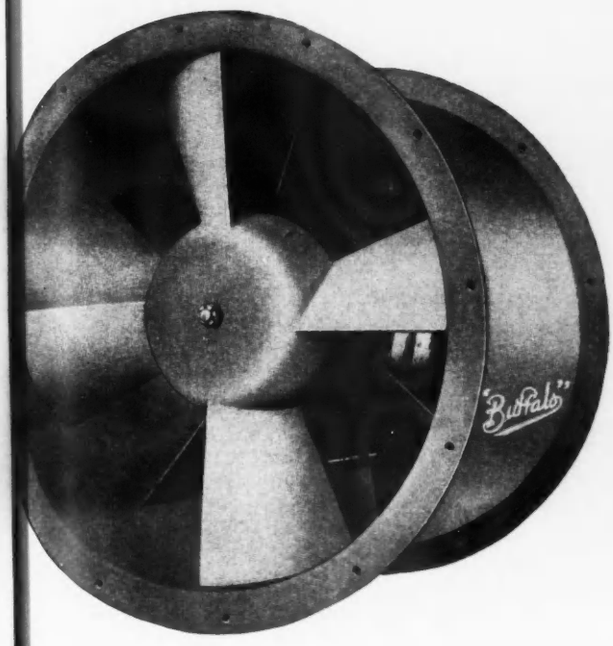

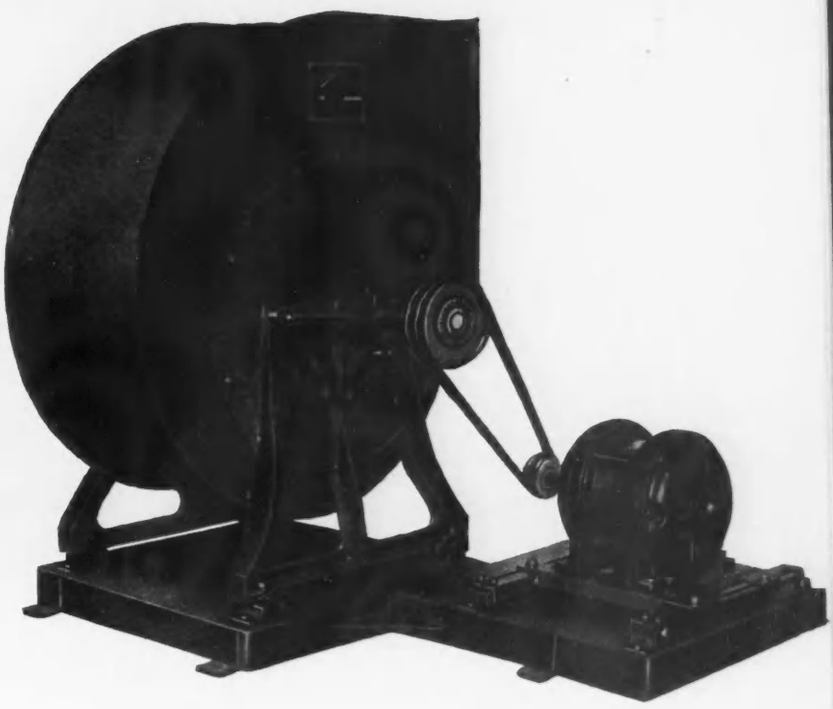

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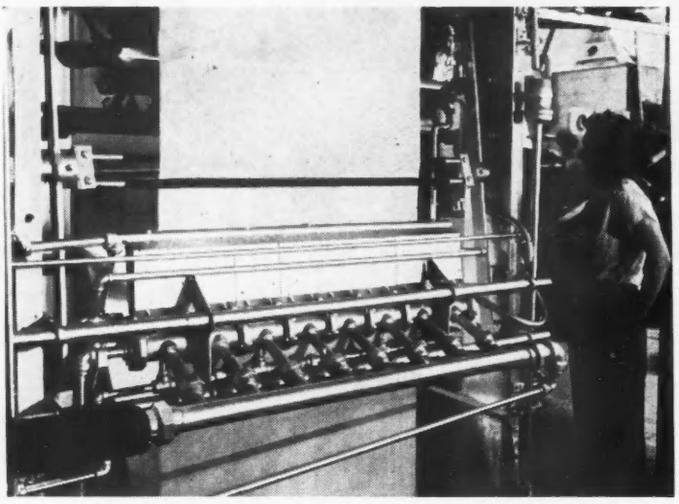

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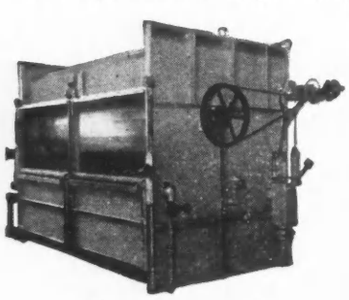

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"jarring" of the prints on the back of the pieces where the pattern has penetrated particularly well. Lack of tension in the batch is taken up as the cloth passes through the nips and on to the drying arrangement of the printing machine. Since the damp, printed cloth is at a different tension from that of the back-gray, the impression which has penetrated to the back-gray is drawn away from its related impression on the printed piece, with the result that a smudged, or "jarred," appearance is given to the back of the print. Rebatching with a greater degree of tension and adjustments to the tensioning arrangements of the printing machine are remedies.

End-cloths which are sewn on the ends of the batch to guide the cloth through the printing machine should always be clean. Careless handling here may result in the carrying of grit into the printing machine with consequnet damage to rollers, doctor blades, etc.

CALENDERING. Generally speaking, calendering is not necessary except for special purposes requiring production of surface effects. The printing of pigment colors and metallic prints are examples. Here the print must be set as it were on a compact surface with the minimum of penetration, and calendering is helpful. In certain styles, resist printing also benefits from a previous calendering of the cloth. As resists act mechanically as well as chemically, the formation of a solid film of resist is assisted by a compact cloth foundation.

Where only surface effects are required by ordinary methods of printing (vat dyestuffs printing, etc.), as, for example, in shirting and lining styles, the production of very fine line effects may be assisted considerably by a previous calendering. Constant tension and absolute straightness of yarn is essential while calendering, or the print will be distorted in the final finishing.

An earlier article (TEXTILE WORLD, March, 1946, p. 151) dealt with desizing, scouring, and bleaching in preparation for printing. Other steps will be covered in succeeding articles, EDITOR.

Japanese Mills

(*Continued from page* 133)

and use rings approximately 1 in. less in diameter than the gage. The traverses are 5½ or 6 in. in practically all cases. Over 90% of the frames are equipped with some form of long draft, the majority being Casablancas or modifications.

Practically all frames are tape driven and have traversing thread boards.

The spindles used are of the V type and nearly all are of the Japanese standard design. The bobbins are driven

INCREASED DEMAND FOR NOPCO FUA FORCES PRODUCTION EXPANSION*

Nopco plans to increase facilities for manufacturing revolutionary new self-fulling, self-scouring wool oil

36 prominent wool manufacturers have already adopted NOPCO FUA—though it was only recently introduced.

36 mills have found this new development a "chemical miracle" in speeding up wool processing, and cutting operation costs, *in addition* to improving yarn and fabric quality.

As a result, the demand for NOPCO FUA has far exceeded the supply. To meet this situation, NOPCO is shortly increasing its manufacturing facilities to keep pace with present and future demand.

If in the 20 features of NOPCO FUA listed below you find advantages applicable to your production problems, get your order in early for shipment when available.

NOPCO FUA aids wool production 20 ways

100% fatty—no mineral oil

•

non-oxidizable

•

speeds up carding—won't gum up the cards—anti-static properties cut down fly and reduce "loading up" on the clothing

•

cuts stripping time

•

penetrates and nourishes leather rub rolls and condenser tapes, leaving them soft and preserving natural life and cushion of the leather

•

produces a rounder, loftier roving

•

maintains original loft and resiliency of wool fibers

•

prevents "bearding"—a common cause of fiber weakening

•

helps increase yarn's tensile strength

•

improves spinning and performs equally well on either mules or frames

•

does not become set in the yarn during steaming nor in the goods after steaming and crabbing

•

performs like an oil on the fibers during carding and spinning and like a soap in the wet finishing operations

•

remarkable fulling and scouring results without addition of soap or detergents

•

leaves the stuffing-box and folds in same manner as when soap or detergents are used

•

appreciable saving in rinsing time

•

more compatible with fugitive tints than any similar product

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aids level piece dyeing

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eliminates need of excessive alkali

•

gives extremely low ether extraction

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helps remove pitch or tar easily

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NOPCO FUA offers these important aids to better wool processing at no material increase in cost. Write today for fully informative Nopco Data Bulletin.

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self-fulling, self-scouring wool oil

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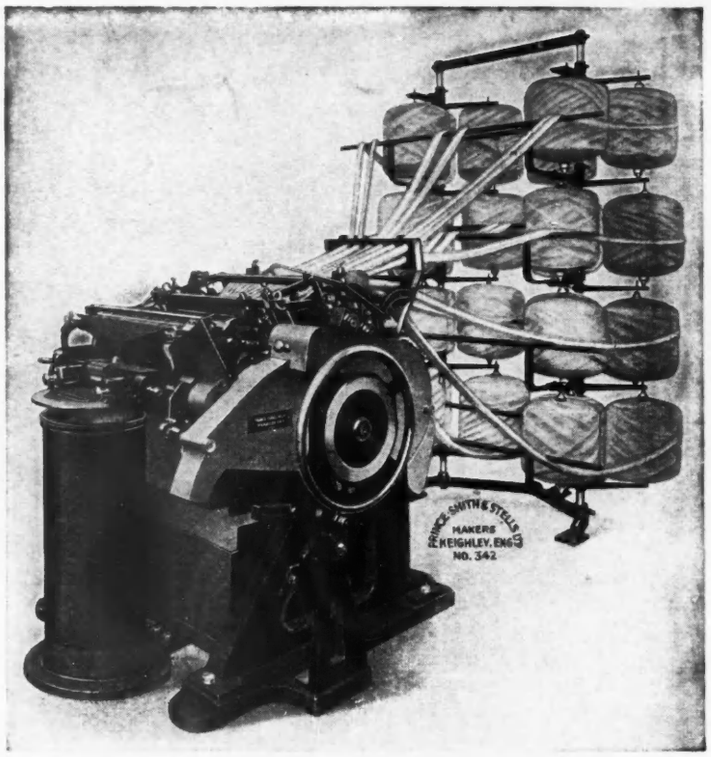

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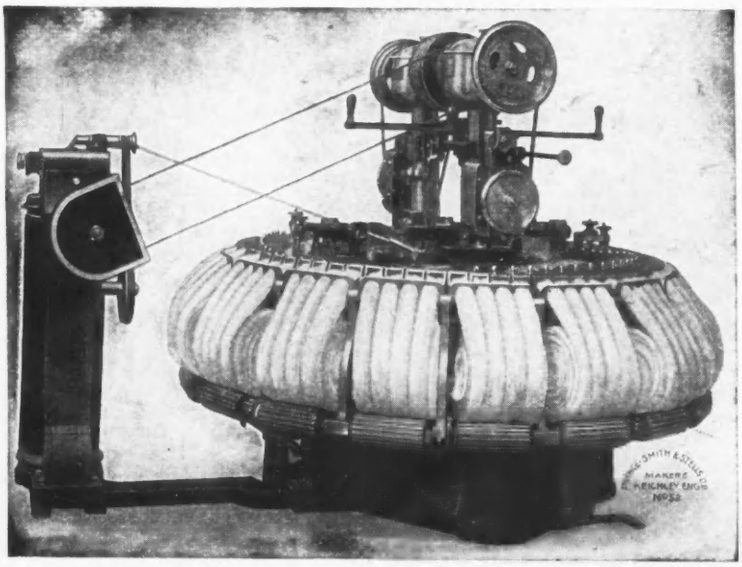

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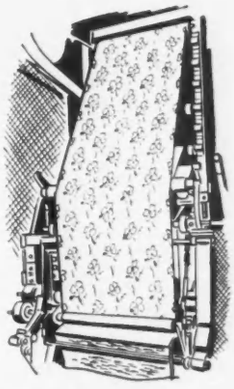

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A small amount of "Carbitol" included in the rayon warp size bath improves adhesion of glue and gelatin sizing, softens the rayon, and allows the right amount of stretch in weaving.

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Completely Soluble in Water . . .
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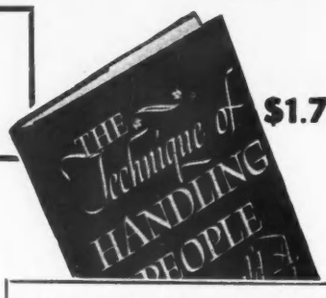
Do people like you *instinctively?*



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Do you know how easy it is to exercise the qualities that impress people favorably, that lead them instinctively to give that extra ounce of loyalty, cooperation, and effort to your ideas and orders?

To win the rewards that beckon to leadership today, in all walks of life, you *must work with people*—get them to like you—get over your ideas to them—influence their thoughts and actions. And now a plain method of developing this ability—11 simple rules that successful business leaders follow—things that *you can start doing today, without study or practice*—are given in this book.

THE TECHNIQUE OF HANDLING PEOPLE

By DONALD A. LAIRD
and ELEANOR C. LAIRD

Read what—

EUGENE G. GRACE, who became president of Bethlehem Steel at thirty-seven, says about observation;
WALTER A. GIFFORD, who became president of A. T. & T. at forty, says about listening to opinions;
CHARLES E. WILSON, self-made president of General Electric, says about wanting to get ahead;
WALTER D. FULLER, who advanced from selling copies of the *Saturday Evening Post* to presidency of the Curtis Publishing Co., says about Big Ideas to get ahead;
LOUIS RUTHENBURG, who became president of Servel at forty-six, says about the spirit of work.

The observation of these and many other important men of industry lend concrete evidence to back up the soundness of Dr. Laird's book. The book gives seasoned, practical advice on the technique of handling people and shows in quickly understandable fashion how to use the psychology of leadership.

How to understand and work with others

This readable, practical manual presents 11 pointers on what to do and say in your everyday contacts with others, in order to win their friendship, good-will, and cooperation. The methods are clearly demonstrated in numerous stories of real people, outstanding leaders, of today, and together form a direct, easy-to-understand, easy-to-use technique for improving your relations with others and especially for securing better results in training, directing, supervising, and other elements of successful leadership.

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from the top of the spindle rather than from the acorn. This tip drive, with the bobbin butt being loose on the acorn, allows the bobbins to find their own gryoscopic centers and results in very smooth-running spindles. These spindles are very light running and operate at speeds from 11,000 to 13,000 r.p.m. Even at these high speeds, they require oiling only at intervals of 6 to 8 weeks on a 102-hr. week basis.

The rings used have a very different flange design from American rings. The inside flange is similar to the American, whereas the underside of the outside flange is tapered up to the outside. This design allows for a slightly different running position of the traveller and is claimed to be one of the reasons for the high speeds run on their frames, and also for longer traveller life. Observations under several conditions seemed to bear out these claims.

The Japanese are aware of the effect of magnetism in their rings and in some cases are already de-magnetizing their rings at such intervals as is found necessary. They claim that a neutral ring has a longer life and that the travellers used on these rings not only have a longer life but run better. This subject certainly is worthy of investigation here.

The lengths of the frames as a whole run from 440 spindles on the $2\frac{5}{8}$-in. gage to 520 spindles on the $2\frac{3}{8}$-in. gage frames.

Both warp and filling yarns are spun with filling winds.

The advantages of variable speed in spinning are recognized; and the trend is toward this modern type of drive, either electric or mechanical.

All ring frames are equipped with Birkenhead-type creels. This creel allows the use of larger creel packages on narrow gage frames; and where two stories are required, the Birkenhead is a lower creel than the standard American type.

ROLLS AND COVERINGS. All top-roll covering in Japan is either bark- or chrome-tanned calf over all-wool cloth, and these leather rolls are varnished for all processes.

Practically all top rolls are of the shell type; and in the case of the ring frames, run on very small, hardened arbors.

All fluted steel rolls are case-hardened all over and are of the square-jointed type.

All roller stands are brass or bronze bushed. This has almost completely eliminated the wear of the roller necks.

The machining of the parts is excellent, and of course it follows that the interchangeability is correspondingly good.

All makes of roving spindles, bolsters, and bobbin gears of a given size are

You associate sanitation with a grocery, and that's largely because of glass. Think of a market without glass showcases . . . glass containers for food products . . . glass bottles for liquids!

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349	1.03	1.18	2.30	3.68	9.21c
549	1.07	1.42	3.84	6.14	15.35c
1049	1.17	1.98	7.68	12.28	30.70c
2349	1.45	3.53	17.65	28.24	70.61c
Over 2350	1.47	3.68	18.42	29.47	73.68c
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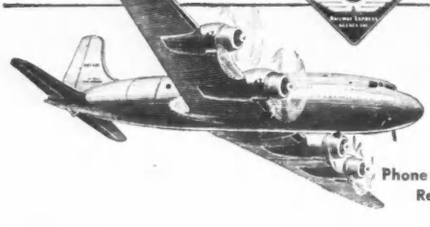

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alike. This simplifies the bobbin situation.

About 90% of Japanese spinning spindles are alike, which again simplifies the spinning-bobbin situation.

Reworkable wastes, such as lap waste, sliver waste, and roving waste are practically zero.

The general cleanliness of the mills is par excellent, the machinery maintenance is excellent, and the attitude of the operatives and their evident pride in their jobs was a delight to observe.

While it is true that the cotton-mill machinery through the spinning and twisting is largely copied from Platt Brothers, it is also true that the Japanese have made a very considerable number of improvements in details. These improvements most certainly have resulted in reducing their maintenance and down time. They have standardized on similar parts, so that in many cases it is only necessary to have one of a given kind of part, which can be used on either the original frame or on copies of this frame from any one of the three or four larger Japanese manufacturers.

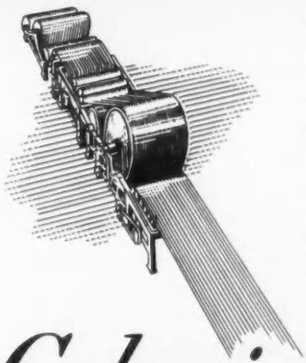
Mill Properties

(*Continued from page 106*)

everything. Existing mills have been bought by capitalists from China, Mexico, Morocco, and Syria (to name only a few), in place of the currently unobtainable new machinery from the machinery manufacturers themselves.

NOW HORIZONTAL INTEGRATION. The growth of horizontal integration within the last few months may be evidence of a turn in the situation. There are such groupings as the Cone merger of 14 mills into the Proximity Mfg. Co., the Stevens assemblage of 10 or more companies each with several mills into J. P. Stevens & Co., the further growth of Burlington Mills Corp., Chadbourn Hosiery Mills, etc. Self-protection is one of the impelling forces behind this trend. Selling houses have seen some of their best mills taken up by unrelated interests and made part of other groups. Ownership or stock control seems the best insurance against such loss.

Another motive for development of larger companies is the current interest in and reliance on research. Small units can afford to undertake research only on a small or on a cooperative basis. Large units or groups, however, can make significant progress all by themselves since the thousands of dollars put into laboratories and talent comprise a relatively small part of their combined resources. Examples of what large companies are doing in research are current in Riverside & Dan River's bonded roving and their work with pigments, in Chicopee



● Authorities differ as to the beginnings of cotton cultivation in the American Colonies, but in 1620 a plentiful supply was recorded. Many of the early settlers—from rural areas of England, where spinning and weaving were well known—brought spinning wheels and looms with them. From these home industries came the first cotton cloth in our colonies.

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"FIRST CULTIVATION OF COTTON"

Today's weavers have Staley Textile Starches to meet every sizing requirement. Highly trained Staley chemists keep constant watch to guarantee the uniform high quality and consistent, dependable performance of every shipment, so that sizing formulas can remain constant. Staley's complete line of modified and unmodified starches is under strict laboratory control from the buying of the native corn to the finished product. If you are not already a Staley customer—now is the time to get acquainted with our prompt service and complete cooperation.

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Declaration of the State of Virginia—1620

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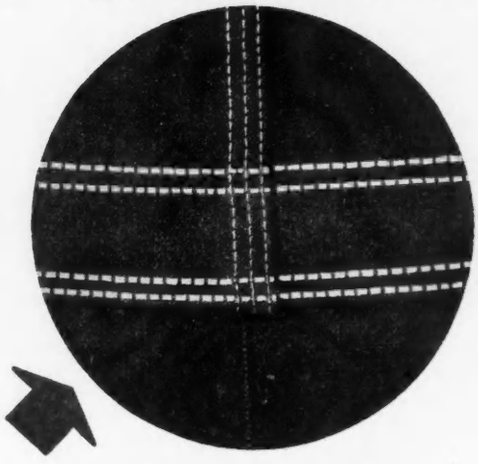
— *Yet so Smooth*

Willcox & Gibbs heavy duty machines are especially designed for use in the manufacture of work clothing, overalls and other medium and heavy weight garments.

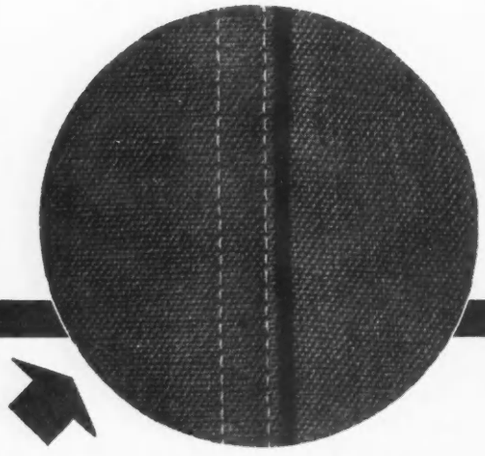
Simple in design, yet rugged in construction they offer manufacturers top production facilities with low maintenance costs.

Here are some of the more important operations on heavy weight garments for which "W&G" machines are particularly adaptable.



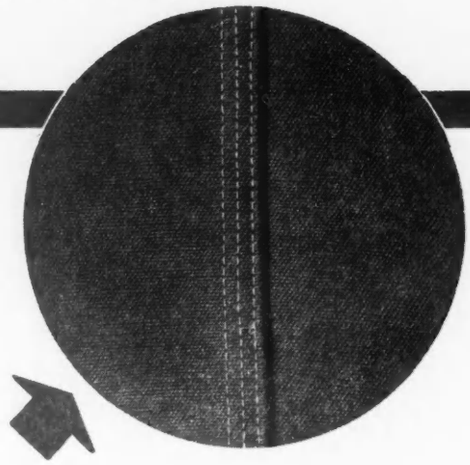
Bib joining and banding, one of the most important operations on overalls, coveralls and work pants is effectively accomplished on Style 994-112.

This operation consists of four rows of strong, durable, accurately spaced stitching across the entire front of the garment. Provision is also made for simultaneously turning in the edges of the fabric to give added strength and neat appearance to the garment.



The out and in-seams on the legs of overalls, work pants and similar garments, must be neat, strong and durable, and entirely free of wrinkles and distortion. This important lap seam felling operation is done with facility on the "Dualfeed".

This is the *ONLY* feed-off-the-arm felling machine that will positively feed the upper and lower plies of material evenly for the entire length of the seam without assistance from the operator. The perfect synchronization of upper and lower feed mechanisms, an exclusive feature of the "Dualfeed", makes this possible.



The two or three-needle sleeve and side closing operations on work shirts made of light weight denim and herringbone twill are completed with the Automatically Lubricated "Feldlock".

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Mfg. Co.'s bonded webb and Lumite screening, etc. Employee relations, worker training, welfare work, etc., are also better done in most cases when the company is large and can spread the cost of skilled management of such functions over great yardages of goods sold.

SHIFTING RELATIONS. The multiplication of vertical set-ups which restrict the market's normal functioning is somewhat different from mere merger of mill with mill on the same level. This position is particularly keen in the field of mill-converter relationships, and has largely broken down the old independence of each side of that market. Gerrish H. Milliken, president of Deering, Milliken & Co., in a recent statement said, "We believe that the present movement toward integration in this market has gone too far. We think that the converter who has been our customer for all these years has fulfilled a very useful function and will continue to do so in the future. It is our intention to continue as in the past, to sell the product of this house in the gray."

The outstanding converter-purchaser of mill properties is M. Lowenstein & Sons, New York, which firm since 1944 has acquired four outstanding mills, with total loom equipment of 6,883 and nearly 275,000 spindles.

There are changes current not only in converter-gray-mill relations, but also in the wholesale dry-goods field. Years ago, the turning by many textile mills to selling their goods direct to the retailer cramped and threatened the wholesaler. Today, according to Flint Garrison, consultant of the Wholesale Dry Goods Institute, many of the large wholesalers are going into manufacturing to such an extent that they are making as much as 75% of all they sell. This practically puts them in the same class with direct-to-the-retailer manufacturers. Ely-Walker Dry Goods Co., for example, has bought Calhoun Mills, Calhoun Falls, N. C., recently and holds a large block of stock in Pacific Mills. Marshall Field & Co. has operated a group of textile mills many years.

The trend "from mill to consumer" gained further impetus lately when approximately 20 Alabama textile manufacturers met at Tuscaloosa to formulate plans to enter the wearing-apparel field, with accent on fashion and quality. John Solomon, of Sylacauga, was named chairman of the operators, who plan a second meeting in Birmingham. Hugh Comer, of Avondale Mills, described the plan as practical through "intelligent efforts."

THEORY OF THE THING. Economists have stated that integration works to the disadvantage of small business. Certainly a small, staple-goods mill would

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The Tennant System ENDS SCRUBBING
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YARN THROWING MACHINES

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U. S. TEXTILE MACHINE CO.

SCRANTON 8, PENNSYLVANIA, U. S. A.

find it difficult to buck the operations of merged companies in a competitive period. However, it has been demonstrated that in textiles there is room even for such small-unit producers as hand-weaving plants in this mechanized age; which suggests that if character, style, and individuality are put into a fabric, it will sell. The small plant which can do this successfully need have no fear of the mere size of competitors.

Garment houses have expressed anxiety over the shrinkage in number of converters. If the trend continues and the 300 converters of the prewar period give place to perhaps 12 commission houses, it seems obvious that regional and individual preferences would not receive the special care they received when more men controlled the styling and distribution of less goods. Obviously, such an extreme case is not an immediate likelihood, although it has been seriously discussed.

Some economists believe strongly in a cause-and-effect relationship—that scarcities have caused vertical integration, and that when they disappear business will tend to revert to its previous status. The gray-goods mill with a converting department can get out of that business in a few minutes; however, a converter who has bought a gray-goods mill cannot make the change so quickly, particularly since there will be less active demand for mills when goods again become plentiful.

To some men, the test of what is going on today boils down to the answer to one question—"Does it benefit the consumer?" That means does it result in better quality or lower prices? It seems reasonable that savings cannot be passed on unless they are made, and they are unlikely to be made unless functions can be eliminated. In the vertical integrations now in the public eye, the principal functions eliminated are selling functions between steps in the manufacture of the end-product. In horizontal integrations, the savings are due to consolidation of some functions, to pooling of brains, and to higher development of service departments. Actually these integrations are conceived as enhancing the chance for profit to management. For consumer benefit, there must be enough increased efficiency to produce savings on a scale which will repay management and also leave a share for the consumer.

The course of the next few years can be called an "uncharted course" with more truth than usual when that phrase is used. If the current period of relative scarcity lasts long enough, it may establish present-type integrations to the point where they will become models for the building of the industry for years to come. If the scarcities do not exist long enough, the trend may taper off

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3106 Elm Ave., Baltimore 11, Md.

It's an established American custom — it was in 1900 and it is in 1946 — to dress for the occasion . . . in keeping with the times . . . and Americans are the best dressed people on earth — Paris and the Riviera not excepted.

To the textile industry, its artists, designers, and technicians, who plan and make the fabrics, goes a major part of the credit. It's a young, modern industry. Textile men are on the job. And one of the things they have been keenest about is plant location.

Scores of textile plants, in recent years, have been located or relocated in Norfolk and Western territory . . . where everything is "right" for the industry: raw materials, natural resources, labor, taxes, climate, living conditions, the N. & W. proximity to America's leading markets, and through the Port of Norfolk, the markets of the world.

Confidential information about Norfolk and Western territory is waiting for you. Write to Industrial and Agricultural Department, Norfolk and Western Railway, Roanoke 17, Va.

Norfolk and Western
RAILWAY
FOR BETTER PLANT LOCATIONS

EFFICIENCY PLUS

To develop the full efficiency of cards, equip them with Booth Card Clothing. This Clothing offers many advantages.

BOOTH
Quality
Card Clothing

Has a firm foundation which prevents wire from losing pitch; is flexible, which reduces possibility of "shelling out". All clothing is available with rehardened points, if specified.

Benjamin Booth Co.
Allegheny Ave. & Janney St.
PHILADELPHIA 34, PA.

DESIGN and MANUFACTURING ENGINEERS

WEAVING and KNITTING EQUIPMENT

Full Staff of competent engineers and complete manufacturing facilities.

We have successfully solved many special equipment problems for leading mills as well as recognized textile equipment manufacturers.

We invite you to submit to us your problems on weaving and knitting equipment. Write today.

KIWI ENGINEERING CO.
DESIGNERS AND BUILDERS OF SPECIAL MACHINERY
2636 N. Hutchinson St., Phila. 33, Pa.

and the going may become hard, particularly to big and somewhat cumbersome companies. If the scarcities last too long, there is danger of continued or increased government dabbling in business, with wholly unpredictable but probably disastrous results. However, under conditions of excessive government meddling in the past, such advantages as there are appear to lie on the side of the larger companies.

BRANDS AND ADVERTISING. Big companies are more likely to be prolific advertisers than smaller ones. Actually, however, among the suppliers of consumers' goods, textiles have not been advertised to the public on a scale approaching the advertising of foodstuffs, cosmetics, toilet articles, beverages, cigarettes, automobiles, etc. For the year of 1945 there was only one textile company, Celanese, whose advertising expenditures exceeded $1,000,000, while there were 97 companies in all in that category. It is said that Textron, Inc., will be in the $1,000,000 class in 1946. The accompanying table gives textile advertisers who spent over a quarter of a million in 1945.

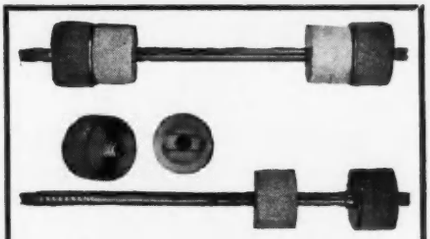
Advertising Expenditures in 1945 by Textile Companies Which Passed $250,000

(From "Printers' Ink" survey which includes magazines, newspapers, radio, and farm papers.)

Celanese Corp. of America (excluding plastics div.)	$1,247,918
Textron, Inc	891,829
Cannon Mills	753,315
Pacific Mills	644,103
Botany Worsted Mills	636,317
American Viscose Corp.	264,800
Pepperell Mfg. Co.	260,283
Jantzen Knitting Mills	250,035

It is obvious that brands play an important part in advertising, and they are often a prime development in the operation of a vertical textile set-up. The nearer one approaches the consumer, the more important is the brand. Gray goods and yarns are usually unbranded. Sheets, blankets, underwear, hosiery, and other items ready for consumer use when they leave the mill are usually branded. Clothing made by integrated mills (for example Palm Beach, Botany-Daroff, Textron) is also usually branded. Obviously, the only way to make the consumer ask for a particular product is to give it a name (for example, "nylon"). It is also a way to hold customers, if and when periods of keen competition come again with not enough business to go around. The satisfied buyer will presumably insist on, let us call them, "Strong-Thread" clothes even if unidentified garments are offered at cut prices. The trend toward vertical integration, then, is a trend which should influence the expenditure of more textile dollars in advertising to the consumer.

Henry E. Abt, managing director of



SPACER-BOBBIN SPINDLE

Adaptable to long or short bobbins . . . spacers are self-locking and removable. Spindles made to your specifications so you can use two different length bobbins on the same spindle, on the same machine, without changing the spindle.

Wayne Manufacturing Co.
Honesdale, Pa.
Manufacturers of Textile Mill Supplies

QUALITY RICHMOND PRODUCTS

NYLTEX
FOR KNITTING
NYLON

Use in trough

Keeps Needles, Sinkers, and Machines Clean

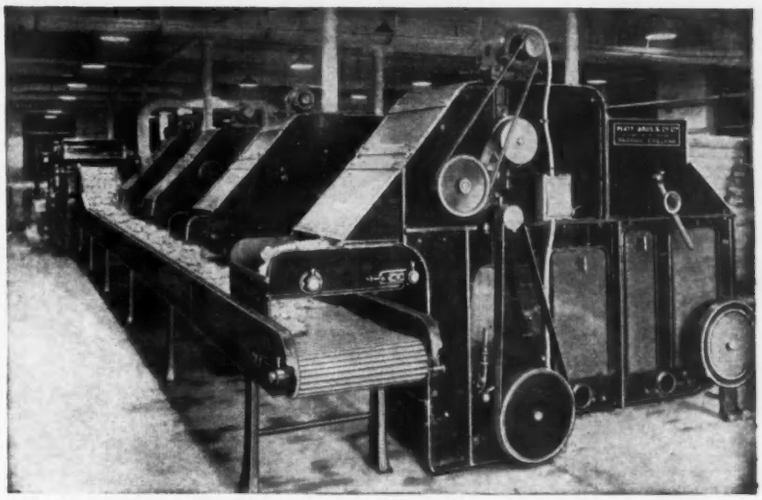
Does Not Strip Size

Send for FREE Sample

NYLTEX

RICHMOND OIL, SOAP & CHEMICAL CO., Inc.
1041-43 FRANKFORD AVE.
PHILADELPHIA 25, PA.

BRITISH TEXTILE MACHINERY



Showing a battery of individually motor driven blending hopper bale openers, specially adapted for the treatment of cut staple.

Let Platt's experts advise you on re-equipment and modernization of your blowing room.

Platt's single process lapping combinations are made to suit all conditions and every type of cotton.

Regularity of supply and perfect blending of constituent cottons are ensured in our system of lap making with:—

1) Less machinery and less floor space.
2) Fewer operatives and reduced labor costs.
3) A superior final product.

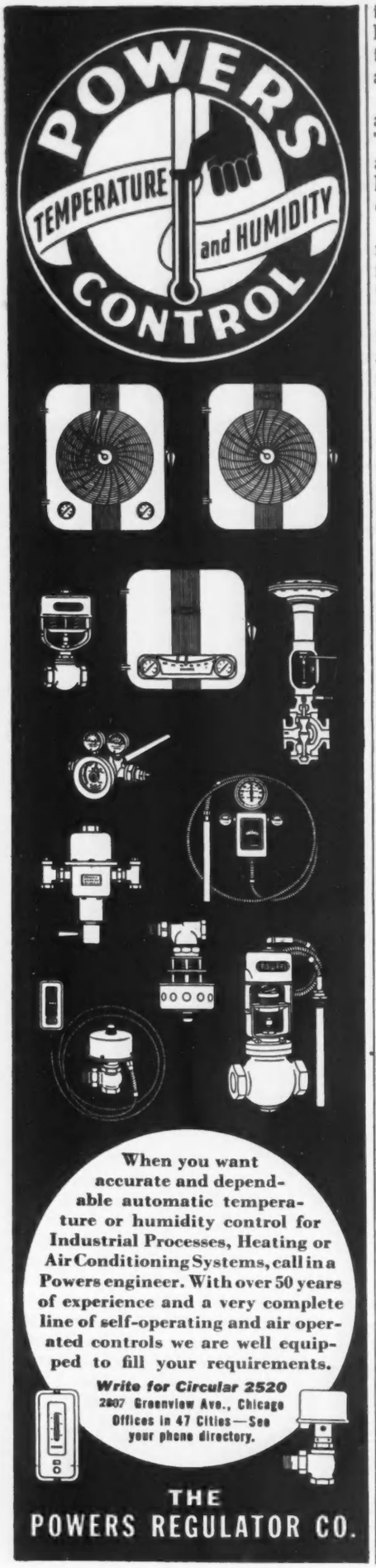
Cotton and Rayon Staple blends can be processed on Platt's Cotton Preparation and Spinning Machinery with relatively minor modifications.

PLATT'S BULLETIN — post-war issue now ready. Early application for your copy is advisable.

PLATT BROS
& COMPANY LIMITED
CENTRAL SALES DEPT.
OLDHAM ENGLAND
marketing the products of .. ..

PLATT BROS & CO. LTD.
HOWARD & BULLOUGH LTD.
DOBSON & BARLOW LTD.
BROOKS & DOXEY LTD.
ASA LEES & CO. LTD.

BTM 3


POWERS
TEMPERATURE and HUMIDITY
CONTROL
When you want accurate and dependable automatic temperature or humidity control for Industrial Processes, Heating or Air Conditioning Systems, call in a Powers engineer. With over 50 years of experience and a very complete line of self-operating and air operated controls we are well equipped to fill your requirements.
Write for Circular 2520
2607 Greenview Ave., Chicago
Offices in 47 Cities—See your phone directory.
THE
POWERS REGULATOR CO.

the Brand Names Research Foundation, lists seven points as a strong case for the brand system of distribution. They are:

1. Brand-identification practices form a link between producer and consumer. The manufacturer freely and voluntarily assumes responsibility for the product he makes and guarantees to stand back of it.

2. The forces of manufacturing are marshalled to produce products conforming to the exact combination of tastes and likes of specific markets.

3. With markets at stake, manufacturers vie with each other in research and technological improvement to add new, desirable attributes to the brand-name products they sponsor.

4. The consumer, learning the vocabulary of brand names, can shop efficiently and quickly.

5. The system is economically efficient, lessening production risk, encouraging mass production, and lowering selling costs.

6. Employment stability and opportunity for advancement are at stake. Genuine labor aspirations are best realized in productive enterprise based on accepted brand names.

7. Freedom is at stake—freedom of buyer's choice; enterprisers' opportunity for new ventures; and freedom of press, radio, and other media that maintain through advertising revenues independence of government domination.

The chief impulse behind many vertical set-ups is to establish and make permanent the markets for a textile product. For example, Palm Beach cloth was once sold broadly to manufacturing clothiers. The Goodall interests concluded that they would be better off to control the process right to the retail store. Their operation of clothing plants to absorb their entire Palm Beach output over recent years has been a proved success.

Owens-Corning Fiberglas Corp. is a vertical set-up which controls the raw material for the fiber, the fiber itself and its preparation, the manufacture of fiber or yarn into batt or cloth, the promotion of new uses, and, to a degree, the fabrication of ultimate products. Its success in merchandising is indicated by the wide-spread recognition of the name Fiberglas.

The American Viscose Corp. exercises a form of control over the end-use of its product by its "Crown-Tested" brand and licensing arrangement. Cannon Mills tags its towels, sheets, etc., in the hope that the consumer will give them preference when they are met with on retailers' counters. Du Pont created what it at once turned over into a generic word when it called its new fiber 66 "nylon." Further examples are legion and may be expected to multiply under the development of integrations.

New Equipment

(*Continued from page 160*)

cago 20, Ill. Said to have a potential service life double that of its predecessor, and to cut the cost of maintenance in half, the new Transporter is made in four models: 4,000- and 6,000-lb., capacity platform models for use with skid platforms; 4,000-lb., capacity pallet model; and a special 3,000-lb., capacity special pallet model for tinplate.

A new hydraulic-lift pump is said to reduce by two-thirds the time necessary to get a load into moving position, and a redesigned brake is reported to be 4 to 5 times as powerful as that on the old model. One stroke is all that is required to engage a loaded skid with standard one-inch clearance, it is stated. The pump uses a combination of a high-speed cylinder for raising the platform into contact with skid or pallet and a low-speed cylinder for raising the load. The new pump, it is reported, is interchangeable with the old, is available, and can be installed on all Transporters now in service.

"Dead-man control" is provided by a new automatic brake.

Dyes and Chemicals

(*Continued from page 162*)

sion G-25 is a white, medium- to low-viscosity fluid, and the emulsifying agent used in its manufacture is of non-ionic type said to produce an emulsion with good stability toward electrolytes and not precipitated by cation- or anion-active dispersing agents.

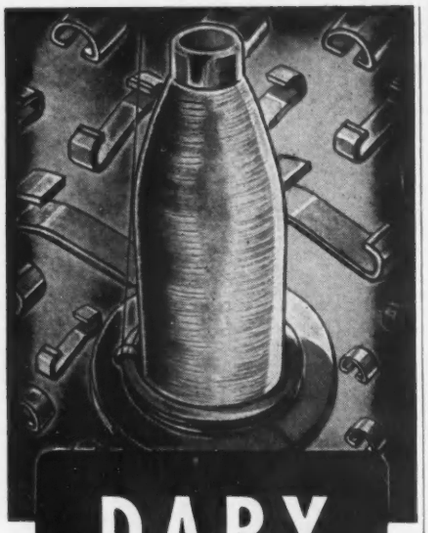
Paraplex G-40, a new plasticizer, reportedly is not subject to spue, migration or extration by aliphatic solvents, and is said to become an integral part of the composition of stocks. While having resistance to extreme heat, to oil, and to ultra-violet and weathering, combined with good low-temperature flexibility, Paraplex G-40 shows improved solvent resistance, lighter color, lower viscosity at elevated temperatures, but slightly poorer low-temperature flexibility than Paraplex G-25, it is stated. It is recommended for compounding specialty stocks for coated fabrics.

Medium-Titre Fatty Acid Wetting Agent

PALMALENE; The Beacon Co., Boston.

A synthetic palm fatty acid of medium titre, Palmalene, has been announced by The Beacon Co. Designed for use with alkyl resins, as a wetting agent, or kier assistant, the product has the following characteristics: saponification number, 180-185; iodine value, 55-60; titre, 30.

AT YOUR SERVICE
The full facilities of our textile laboratory at Greenville, S. C. and the services of its staff are always ready to help you solve any textile problem.
CORN PRODUCTS SALES COMPANY
Greenville, S. C. Greensboro, N. C. Spartanburg, S. C.
Birmingham, Ala. Atlanta, Ga.
EAGLE
STARCHES
PEARL
C.P. WARP
STARCH
SIZING
GLOBE
Starch



DARY

RING TRAVELERS

More and Better

Efficient travelers are designed to furnish necessary drag on the yarn, guide the yarn as it winds on the bobbin, and help impart twist to the yarn. The Dary Ring Traveler performs these functions *more* efficiently, for *better* spinning and twisting.

See the friendly Dary Representative in your area now. You need no introduction to him or to his superior product, Dary Ring Travelers.

Remember, there is a Dary Ring Traveler for every spinning or twisting purpose.

DARY

★ PROCESSED ★

SYMBOL OF SUPERIORITY

The DARY RING TRAVELER CO.

TAUNTON, MASSACHUSETTS

JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.

JOHN H. O'NEIL, BOX 720, ATLANTA, GA.

H. REID LOCKMAN, BOX 515, SPARTANBURG, S. C.

France Expected to Step Up Textile MACHINERY PURCHASES

HIGHLIGHTS: *Original figure of ten million dollars to be spent may be stepped up to seventy—French textile industry and purchases still in hands of private business men—U. S. Government approval necessary on some purchases.*

With $1.4 billion of U. S. credits now agreed upon for France, McGraw-Hill World News has learned that the French hope to spend anywhere from $10 million to $70 million for textile machinery in the United States over the next four years.

The $10 million figure is the one originally set in the over-all five-year plan for rebuilding and re-equipping France's industry and agriculture, and was developed by Jean Monnet as head of the *Commissariat du Plan de Modernization et de Equipement*. Under this plan, France's total textile machinery expenditures abroad by 1950 would be $60 million. However, the important French textile industries may try to obtain considerably more American equipment than had been envisaged.

Since the textile industry is still in the private sector of the French economy, purchasing will be done by businessmen. There is a chance that the "groupements" for wool and cotton purchasing (comprised of manufacturers and wholesalers organized together for foreign buying) will dominate this mission.

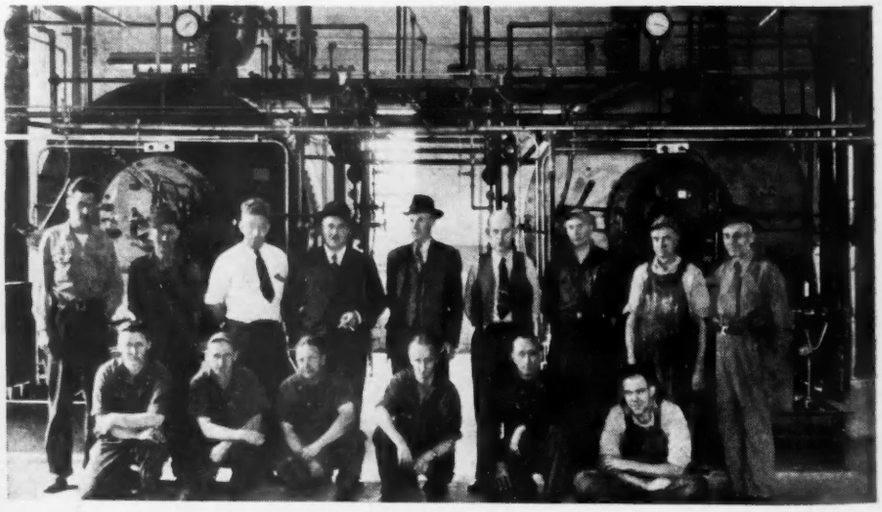
The French Supply Council, a French government agency with offices in New York and Washington, will not officially have anything to do with private purchases, but is apt to stand on the sidelines to make sure that hard-to-get dollars are carefully spent. Also, as long as import licenses are required (to conserve and allocate hard currencies), the French government has a hand in any buying.

In addition, U. S. government approval will be necessary for some purchases. Specifically, any buying from funds of the $650 million Export-Import Bank loan to France awaits final approval by the Export-Import Bank of detailed purchase lists. Further, any goods in short supply require CPA allocations.

With wool yarn and cloth production last spring back to 80% of 1938 levels and cotton textiles at 65% of pre-war, the French industry is anxious to acquire new machines as rapidly as may be possible.

Until a buying mission arrives, the French Supply Council offices are handling inquiries.

NEW MODERN BOILER PLANT



Two 4-pass, down-draft, oil-fired Cleaver-Brooks boilers capable of generating 17,200 lb. of steam per hr. at 100 lb. pressure have just been put into operation at the Amoskeag-Lawrence Mills, Inc., Manchester, N. H., to supply the Amory Mill (including Amory Worsted Mills, Inc.). William R. Beuret, general manager, is fourth from left in the back row. To his left is Maurice J. Brock, plant engineer. Others are installation and operation men.

A NEW Rubber Thread

It's Better because—

1. Made from Liquid Latex
2. Formed from multiple plies
3. A square thread
4. The only alkaline thread
   (No Acid Reaction)
5. Longer lengths
   (Over 1,000 yards in each chain)

Now in Production in Our New, Modern Plant

ANDREWS-ALDERFER PROCESSING COMPANY

120 ASH STREET
AKRON 8, OHIO

You should take advantage of these newest *Southern Shuttles*

Scientifically Engineered

Skillfully Manufactured

by the
Leading Producers of all
types of Shuttles.

Shuttles built by Southern are adaptable to all your needs.

Call for one of our nearest Service Engineers.

SOUTHERN SHUTTLES DIVISION
OF
STEEL HEDDLE MFG. CO.
621 E. McBEE AVE., GREENVILLE, S. C.
TEMPERED

Through Passenger Service
Designed to Meet
INDUSTRY'S NEEDS

UNION PACIFIC

Here is a new passenger train service ideal for industrial executives making business trips between the East and West Coasts. This no-extra-fare service is 10 to 18 hours faster than previous service between Chicago-St. Louis and the West Coast terminals.

Between
NEW YORK-WASHINGTON, D. C.
***and* LOS ANGELES-SAN FRANCISCO**

• • • •

From New York . . . through sleeping-cars depart on the New York Central and the Pennsylvania railroads. On arrival at Chicago they are carried through to Los Angeles on the Transcon; to San Francisco on the Overland.

From Washington, D. C. . . . through sleeping-cars departing on the Pennsylvania are carried through from Chicago to Los Angeles on the Transcon—to San Francisco on the Pacific. Departing on the Baltimore and Ohio, sleeping-cars are carried through to San Francisco on the Pacific.

Similar service available eastbound from Los Angeles and San Francisco. No change of cars enroute in either direction.

Between
ST. LOUIS-KANSAS CITY-DENVER
***and* PACIFIC COAST**

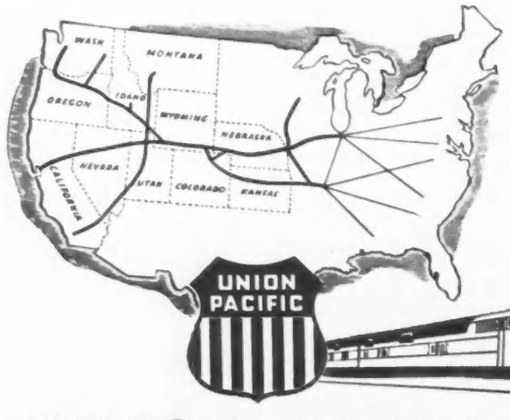
• • • •

Departing from St. Louis on the new Streamliner "CITY OF ST. LOUIS" through sleeping-cars are routed to Portland-San Francisco and Los Angeles (via Kansas City-Denver) with no change of cars enroute. Similar service is available eastbound from the West Coast.

• • • •

For complete information regarding schedules, accommodations and other passenger service to or from the Union Pacific West, inquire at your local ticket office.

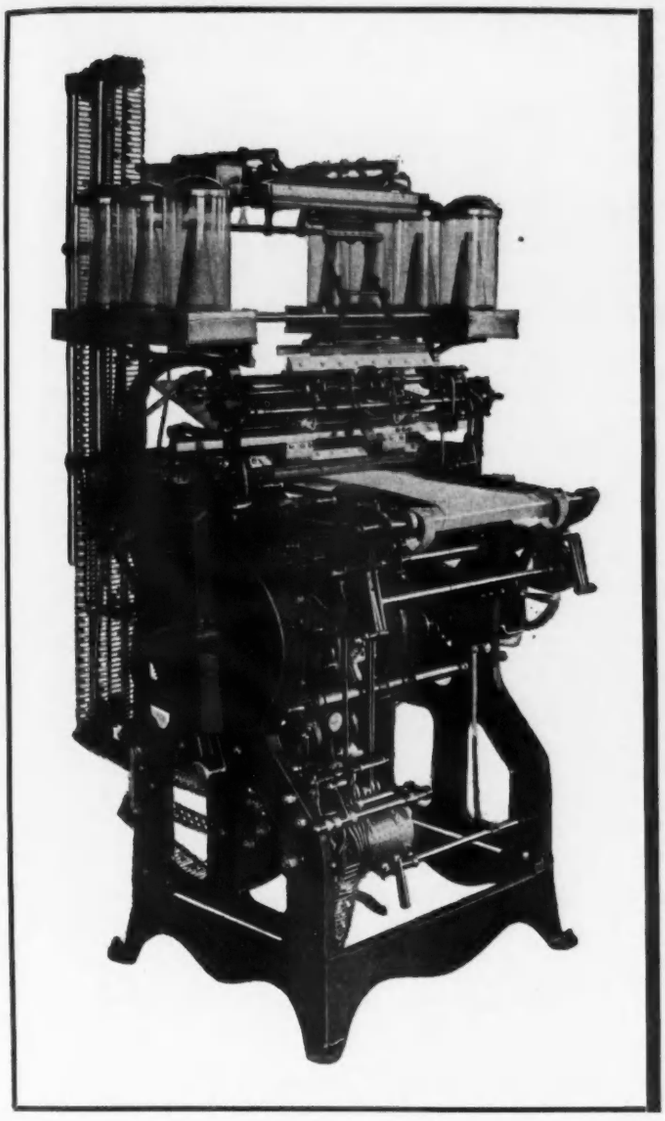
TO VACATIONISTS . . . Union Pacific serves more western scenic regions than any other railroad. These include California, Pacific Northwest, Colorado, Yellowstone and the National Parks of Southern Utah-Arizona.



be Specific - say "Union Pacific"

UNION PACIFIC RAILROAD

ROAD OF THE *Streamliners* AND THE *Challengers*



Here's a Machine that makes it EASY for YOUR plant to meet the extraordinary

STOCKING DEMAND

of today!

How many pairs can you make? This appears to be the leading question in the hosiery industry at the present time. It's YOUR job to get greater production, and get it fast. To this end, you should learn all about this famous

WILDMAN SINGLE-HEAD, SINGLE-UNIT, FULL-FASHIONED HOSIERY MACHINE

Knits the Complete Stocking in One Continuous Operation

This ingenious machine saves *all* the time wasted in the change-over from leggers to footers, and eliminates the bad matching and "seconds" which are the invariable product of such old-fashioned methods. The Wildman takes all types of yarns, synthetics, nylons and combinations in the finest gauges—producing a uniformly beautiful stocking, perfect from top to toe, in ONE operation. No stopping, no slowing down for plaiting or narrowing—it's the "go-ahead" signal for bigger, better, faster production.

● **WILDMAN MFG. CO., NORRISTOWN, PENNSYLVANIA**

NOW

2000 lbs. PER BATCH

On acetate yarns (determined by type of yarn and count) we can now produce our "Superfast" colors, *one ton per shade*, in one dyeing, on packages.

Atlantic Rayon
CORPORATION

Dyers and Converters of Synthetic Yarns for All Industries

Plant at Providence 1, R. I.

BRANCH OFFICES:
Empire State Bldg., 5th Ave.
New York 1

3701 North Broad St.
Philadelphia 40

★

NEWS of the MONTH

Policy Statement. In view of the possible permanent discontinuance of OPA, said a statement of the Cotton-Textile Institute on July 11, it is essential that the industry itself take steps to assure maximum production and fullest possible flow of goods to all of the channels of distribution at reasonable prices. The institute recommended maintenance of maximum production during the period of scarcity; avoidance of long-term contracts; prompt shipments and equitable distribution of goods; no unnecessary and unwarranted price increases. Where price increases in the interest of production are essential, the institute recommended that they be made in accordance with the well-established formula which has been approved both by Congress and by industry in general, namely, prices which will not exceed the sum of the following: (a) replacement cost of raw cotton (b) cost of manufacture, (c) a reasonable profit.

STA Annual Convention. John M. Caughman, general superintendent of Spartan Mills, Spartanburg, S. C., was elected president of the STA at the annual convention in Myrtle Beach, S. C., June 6 to 8. Vice president is Virgil E. McDowell, assistant superintendent of Rose-Mary Mfg. Co., Roanoke Rapids, N. C.; chairman of board, R. T. Stutts, superintendent of Easley Cotton Mills, Liberty, S. C.; executive secretary, Marshall Dilling, of Gastonia, N. C. Elected to the board of governors for three-year terms ending in 1949 were: Smith Crow, superintendent of Erlanger Mills, Lexington, N. C.; J. L. James, assistant manager of Erwin Cotton Mills, Cooleemee, N. C.; J. B. Templeton, superintendent of Poinsett Mill, Brandon Corp., Greenville, S. C.; and Thomas King, master mechanic of Springs Cotton Mills, Lancaster, S. C. T. C. Peagram, past president of the STA, presented the past-president medal to B. M. Bowen, retiring president.

Lowell Expands. Gov. Tobin, of Massachusetts, has signed a bill incorporating the Lowell Textile Building Association, which will construct four new dormitories and a new recreation building at the Lowell Textile Institute. These facilities are greatly needed to care for an enrollment increased by the return of war veterans to the school. President Kenneth R. Fox and Samuel Pinanski of Boston, chairman of the planning committee, were present when the act was signed.

Maid-of-Cotton at Jubilee. Lending a touch of deep South charm to the 1946 season's greatest advance showing of fall and winter cottons, pretty Gwin Barnwell of Greenwood, Miss., and Gastonia, N. C., the cotton industry's Maid of Cotton, appeared as featured model at the Cotton States Jubilee fashion show at Philadelphia on July 16, opening day of the Lions International convention. The Maid of Cotton, who has just completed a cotton goodwill tour of 33 major cities, was assisted in the Philadelphia show by 18 models chosen

GERMANS USED WOOL FELT—Artificial hands for war-injured personnel are being carved from solid blocks of white hard felt made principally from carbonized Cape wool. The wool was dry-carded, since the thickness of the felt precluded any later scouring for removal of oils. Resilience to touch and life-like appearance are some of the advantages. Raymond R. Stevens, Fellers Co., Boston, described this felt in FB report No. 3466.

Textile Calendar

Association of Hosiery Mill Salesmen, annual outing, Crestmont Golf Club, West Orange, N. J., July 16, 1946.

Southern Conference on Human Relations in Industry, Blue Ridge, N. C., July 18 to 20, 1946.

Southern Garment Manufacturers Association, Inc., annual meeting, Heidelburg Hotel, Jackson, Miss., Aug. 12 to 14, 1946.

Fourth National Chemical Exposition, Chicago Coliseum, Chicago, Sept. 10 to 14, 1946.

Second National Electronics Conference, Edgewater Beach Hotel, Chicago, Oct. 3 to 5. 1946.

Southern Hosiery Manufacturers Association, annual meeting, Grove Park Inn, Asheville, N. C., Oct. 17 to 19, 1946.

Seventeenth National Exposition of Power & Mechanical Engineering, Grand Central Palace, New York, Dec. 2 to 7, 1946.

Seventh International Heating & Ventilating Exposition, Lakeside Hall, Cleveland, Ohio, Jan. 27 to 31, 1947.

Knitting Arts Exhibition, Convention Hall, Atlantic City, N. J., Apr. 29 to May 2, 1947.

National Association of Hosiery Manufacturers, annual meeting, Hotel Claridge, Atlantic City, N. J., Apr. 28, 1947.

Hosiery Industry Conference, Hotel Claridge, Atlantic City, N. J., Apr. 28 and 29, 1947.

A Complete Set of these Data Sheets will give your Maintenance Man Valuable hints. Previous Sheets will be sent upon request.

MAINTENANCE DATA SHEET NO. 4

CLAMPS FOR SCOTT TESTERS

If discrepancies still remain after correcting the Tester head, the difficulty may lie in the clamps.

On flat grip clamps for testing fabric, sheet metal or similar material, the gripping surfaces MUST be absolutely flat and parallel. Place a sheet of white paper and of very soft pencil carbon paper between the clamps, and close them tightly. If carbon is not deposited uniformly over the white paper it will indicate that the surfaces have become worn by testing hard material, or distorted by excessive pressure on the closing screw. Such clamps should be returned to the factory for resurfacing and realignment.

To determine parallelism of the long edge of the gripping surface: move the lower clamp down about 1"; measure the distance between the edges of the gripping surface at both ends. If not parallel, adjust the clamp which is out of line, by straightening the connection joining this clamp to the testing machine.

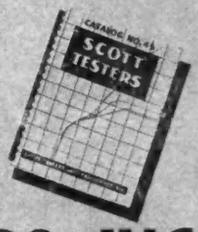
Cord, twine, wire or similar materials require drum-type clamps, of which the drum surface must be absolutely smooth, while the gripping surface of the clamps must apply uniform pressure throughout.

On wedge-type wire clamps, after considerable service the gripping surfaces become worn. Replacement inserts can be ordered, which are easily installed.

On drum-type wire clamps, (as the Jute Association wire clamp) the drum, eccentric roll and anvil should be replaced as soon as any amount of wear shows.

On all clamps, any surface subject to friction should be lubricated periodically, especially the hinge, screw thread and contact between screw and clamp body of fabric clamps, and the sliding wedge of wedge-type wire clamps.

The many Scott Testers supply the needs of testing textiles, rubber, wire, paper, etc., up to 1 ton tensile.

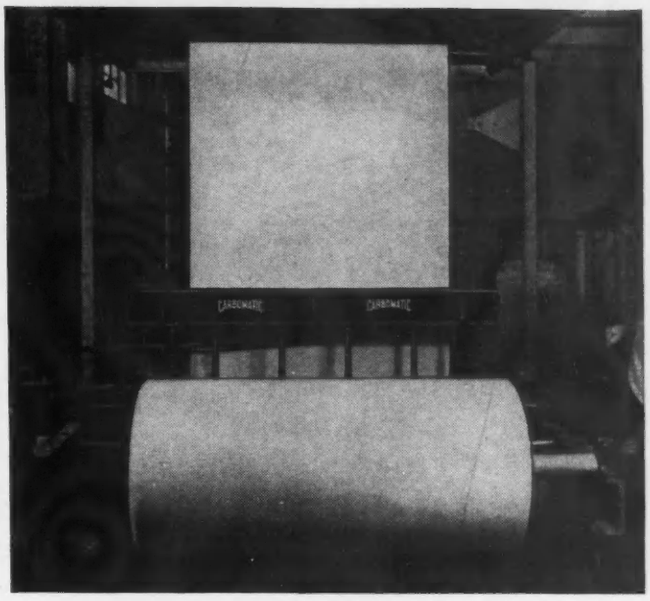


REQUEST "CATALOG & DATA BOOK NO. 45"

SCOTT TESTERS, INC.

95 BLACKSTONE ST., PROVIDENCE, R. I.

CARBOMATIC
INFRA-RED
SINGEING UNIT



New Type Unit Hailed By Leading Textile Firms

Mr. Collins, general manager, Empire Piece Dyeing and Finishing Co. writes: ". . . we are perfectly satisfied with the results obtained since installing *Carbomatic burners on the Singer and Palmer. The singer operation has been stepped up approximately 100 percent; the palmer operation has been stepped up approximately 50 percent.* Generally, the results are very good not only from a standpoint of increased yardage but also a more thorough drying job. This equipment has been in operation now for the past several months and we are quite confident that present figures are permanent." Carbomatic units make possible the processing of several widths of material on the same unit, with necessary controls incorporated as an integral part. Variable speed control enables singeing of lighter or heavier goods at the proper speeds.

Carbomatic singers are fully automatic, their operation is absolutely fool-proof. Flame is automatically shut off if the machine is stopped for any reason whatsoever. Any type gas or gaseous fuels may be used.

Carbomatic Engineers Design and Install gas or electric units for drying, curing, carbonizing, singeing. 65% of our orders are repeat orders. Tell us your conditions—no obligations.

Send for Bulletin TW-10

INFRA-RED DIVISION

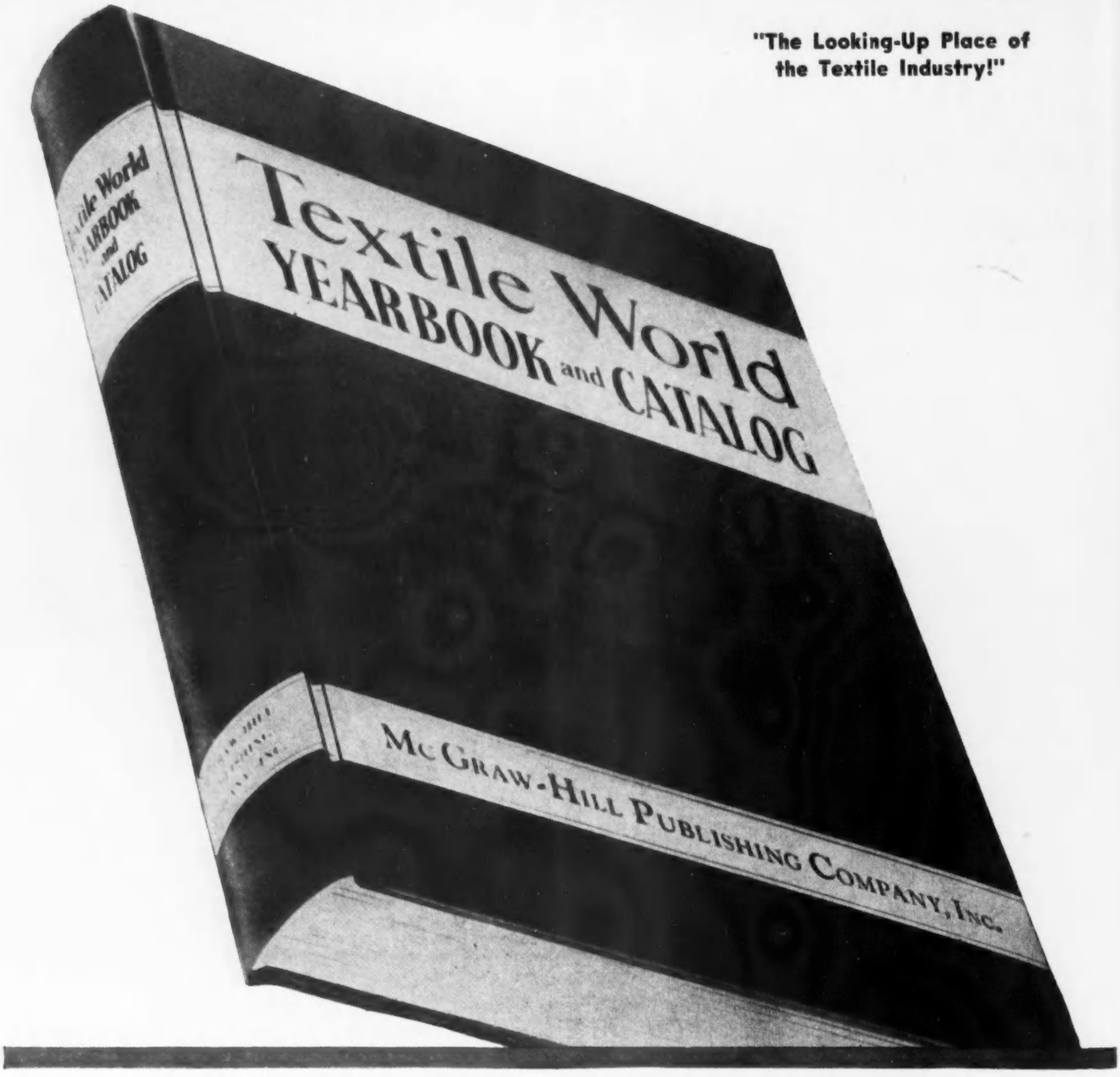
CARBOMATIC CORPORATION

117 WEST 63rd STREET • NEW YORK 23, N. Y.

In Canada—Canadian Textile Engrg. Ltd.
980 St. Antoine Street, Montreal, P. Q.

IF IT'S INFRA-RED—BE SURE IT'S CARBOMATIC

"The Looking-Up Place of the Textile Industry!"



"Look it up First"

IN TEXTILE WORLD YEARBOOK & CATALOG

TEXTILE WORLD YEARBOOK SECTION

75 pages of Mill Reference Data —representing the textile industry's only "yearbook"—with answers to hundreds of mill operation questions.

MANUFACTURERS CATALOG SECTION

299 pages of essential catalog data for textile machinery equipment supplies & services presented in easy to find and easy to use form.

SUPPLIERS DIRECTORIES SECTION

Complete directories of manufacturers of textile machinery, equipment & supplies and manufacturers of dyestuffs and chemicals.

BRITISH TEXTILE MACHINERY

The ever-widening fields in which materials consisting wholly or partially of cotton waste are used has made the preparation, carding and spinning of waste a highly specialized industry, involving the use of specially designed machines at every stage of manufacture.

We have an unequalled range of machinery for the treatment and spinning of waste and invite all firms interested to make application on their business letter-heads for copies of our new catalogue on the carding of cotton waste.

PLATT BROS
& COMPANY LIMITED
CENTRAL SALES DEPT.
OLDHAM ENGLAND
marketing the products of .. ..

PLATT BROS & CO. LTD.
HOWARD & BULLOUGH LTD.
DOBSON & BARLOW LTD.
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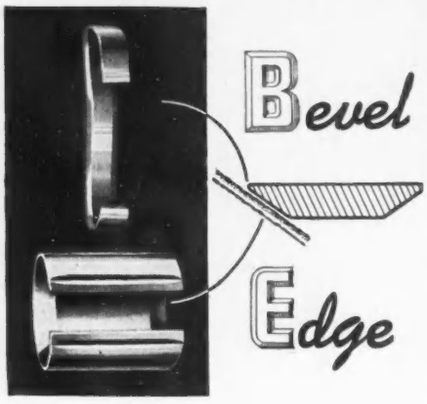
In Tune with the times

ANTI-FRICTION TRAVELERS



For smoother running; to safeguard quality.

Anti-friction rings — U. S. "Bevel Edge" anti-friction travelers, both are especially timely because they promote maximum production from existing spinning and twisting machinery. Some of the direct benefits from the Bevel Edge traveler are stated by users as follows:

1. **Less loading up of travelers on cotton.**
2. **Less fly waste on woolen.**
3. **Minimizes split ends on rayon, and silk.**
4. **Much lower end breakage—frequently 8 to 10 fewer per hour.**
5. **More uniform tension—more uniform yarn.**

U. S. Travelers are made and stocked in ALL styles.

DEPENDABLE DELIVERY—
PROMPT SERVICE CALLS

U. S. RING TRAVELER CO.
AMOS M. BOWEN, President & Treasurer
Providence, Rhode Island

"U. S." Men give you Prompt Service!

W. P. VAUGHAN—W. H. ROSE—Greenville, S.C.—Box 792—Phone 3031
O. B. LAND—Athens, Ga.—Box 1187—Phone 478
T. L. MAYNARD—Belmont, N. C.—Box 456—Phone 115
M. L. BOLTON—West Philadelphia—Box 7234—Trinity 1438
H. R. FISHER—Concord, N. C.—Box 83—Phone 8988
C. W. SMITH—H. J. SMITH—L. H. Mellor, Jr., Providence—Gaspee 0100

by Lions clubs from the cotton-producing states.

Puts Textiles on Air in South. "Textile Topics" is a radio program sponsored by J. W. Valentine, New York, and broadcast over a group of 29 southern stations. Featured speakers have included Paul Halstead, secretary-treasurer of the Cotton-Textile Institute; W. Ray Bell, president of the Association of Cotton Textile Merchants of New York; Henry Matter, managing director of the Wholesale Dry Goods Institute; D. J. Walsh, Jr., partner of Sanderson & Porter.

Big Philadelphia Outing. An attendance of over 400 made the outing held by the Philadelphia Textile Manufacturers Association at the Manufacturers Country Club, Oreland, Pa., on June 28, the most successful in its history. W. B. Goldthorpe won gross in the golf and C. Carrol Baxter captured low net.

ASTM Elects. At the ASTM annual meeting in Boston June 24 to 29, Arthur W. Carpenter, manager of testing laboratories, The B. F. Goodrich Co., Akron, Ohio, was elected president, succeeding J. R. Townsend, materials engineer, Bell Telephone Laboratories, Inc., New York. Among new members of the board are A. G. Ashcroft, director of research, Alexander Smith & Sons Carpet Co., Yonkers, N. Y., and A. T. Chameroy, manager of laboratory, Sears, Roebuck & Co., Chicago, Ill.

New Cotton Harvester. A new cotton picker has been devised by Wm. F. Speck, West Memphis, Ark., who hopes to produce the machine on a quantity basis to sell at about $1,500 each. It is tractor drawn, straddles the row, and picking is done by steel fingers.

Wage Award. The arbitrator, Prof. D. V. Brown, of MIT, who has had in hand the matter of wage controversy between 44 New England cotton and rayon mills and their employees recently awarded increases of 8¢ per hour giving a minimum of 73¢ per hour plus improved insurance benefits.

New England Scholarships. The New England Textile Foundation has awarded 19 scholarships of $500 each to students who will enter Lowell Textile Institute this fall.

Completes Addition. Hess, Goldsmith & Co., Atwater Div., has completed an addition to the Plymouth, Pa., plant. L. W. Schoelpple, formerly with Burlington Mills Corp., has been named sales representative for the division.

England Losing Cotton Machinery. The Lancashire cotton industry, already faced with labor and materials shortages, is reported also losing appreciable quantities of its most modern equipment. Foreign buyers are declared to be purchasing machinery from mills shut down during the war, paying as much as $10 each for ring spindles which are valued by other companies at no more than $6. During the first four months of this year exports of textile machinery from Britain totalled 13,000 tons, valued at nearly $16,000,000, compared with 4,860 tons, valued at $7,000,000, during the same period last year.

Lowell Chapter in N. Y. Following several years of wartime suspension, the New York Chapter of the Alumni Association of Lowell Textile Institute was re-established at a large banquet on June 11, at which Kenneth R. Fox, president of the Institute was the principal speaker. Louis J. Othote is president of the chapter; William J. Stein, vice president; David Freedman, secretary-treasurer.

Export Set-Asides Violated. During the month of May, 21 textile mills were charged with violating cotton fabric export set-aside regulations to the ex-

Everyday LOOK FRESH - FEEL GOOD
in CLEAN · DURABLE · WASHABLE
COTTON
Formula for Freshness
1/ Change all clothing worn next to the skin once a day.
2/ Change sheets and pillow cases at least once a week.
3/ Change face towels every day, bath towels twice a week.
BE FRESH · BE CLEAN · IN Cotton

CAR CARDS FOR COTTON—Lending new impetus to the cotton industry's sales promotion activities, a series of car cards which exploit the "cotton freshness" theme is appearing during summer months on the street cars and busses of 35 major cotton-belt cities. The cars and busses in which the cards are posted each month transport 92,856,144 riders. Above is the first of the series.

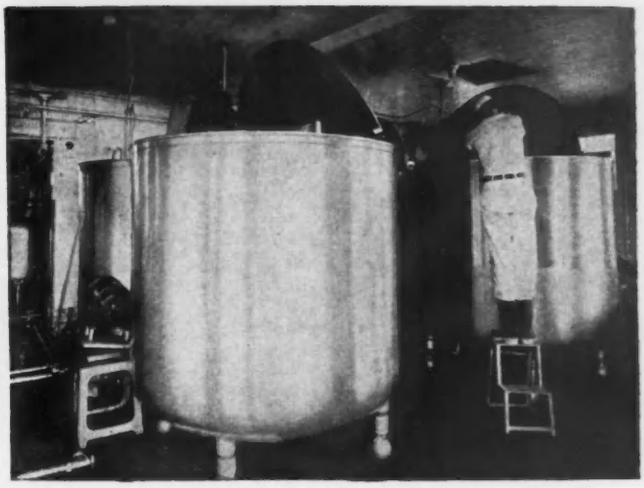
FRIEND OF THE PLANT OWNER... WHO HAS A WET SURFACE MAINTENANCE PROBLEM

The Damp-Tex system of painting kills rust, rot, fungus and bacteria. Stops deterioration. Can be applied on any paintable surface, *wet* or dry, with equal ease and efficiency... changing dingy, rough light-blotter interiors into glistening porcelain-like beauty. One coat covers. Resists acid, alkali, corrosive gases and oxidation. Dries overnight without flavor-tainting odor into waterproof film. Comes in white and colors. Write for our trial offer.

LIQUID PORCELAIN-LIKE
DAMP-TEX FOR
WET
OR DRY SURFACES

STEELCOTE MFG. CO. • ST. LOUIS, MO.

Canadian Manufacturer—Standard Paint & Varnish Co., Windsor, Canada



The John Van Range Co.

Equipment of

STAINLESS STEEL

Monel Metal Aluminum
Copper Zinc Steel

for the

CHEMICAL *and* PROCESSING INDUSTRIES

SYNTHETICS FOODS DRUGS
DAIRY PRODUCTS

Special Equipment built to specifications for new and unusual scientific and industrial purposes.

98 Years' leadership in the design and manufacture of equipment for the preparation and serving of food.

Send Us Your Inquiries

The John Van Range Co.

Division of The Edwards Manufacturing Co.
740-770 CULVERT STREET CINCINNATI 2, OHIO

Weavers Increased Earnings 10-15%

The weavers in a mill working on a piece-work basis increased their earnings 10 to 15% after the installation of an Air-Perme-Ator. And the waste baskets are empty.

Here's why:

Adequate humidification reduced end breaks to almost none. Formerly loom ends were constantly down. With relative humidity constant there was no sticking of shuttles—no raising and lowering of loom harness.

Air-Perme-Ator maintains even humidity

—especially over week-ends—an absolute requirement when synthetics are run.

Air-Perme-Ator pays for itself

in a few months through labor savings, increased production, and fixed charges on looms.

Improves working conditions.

Easy to Install

—Air-Perme-Ator can be hooked up to any lighting circuit and existing water line. No expensive central system is required.

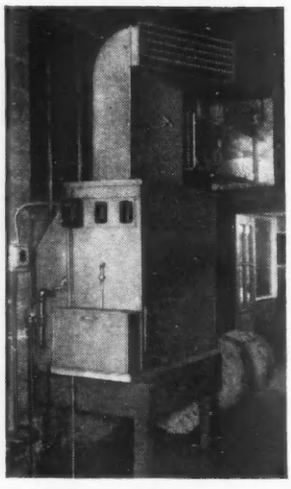
No Free Moisture

is sprayed into the air by Air-Perme-Ator—it operates on the principle of molecular suspension of moisture—nature's process of humidification. 500 times finer than spray.

Being installed by many mills in loom sheds, carding rooms, winding departments, etc.

Write for Report 100—"Increased Production with Controlled Humidity".

Machines delivered in sequence of orders placed.



AIR-PERME-ATOR MFG. CO.

300 Preakness Ave. Paterson 2, N. J.

tent of 7,834,320 yd., the Civilian Production Administration said on June 21 in reporting activities of its Compliance Division.

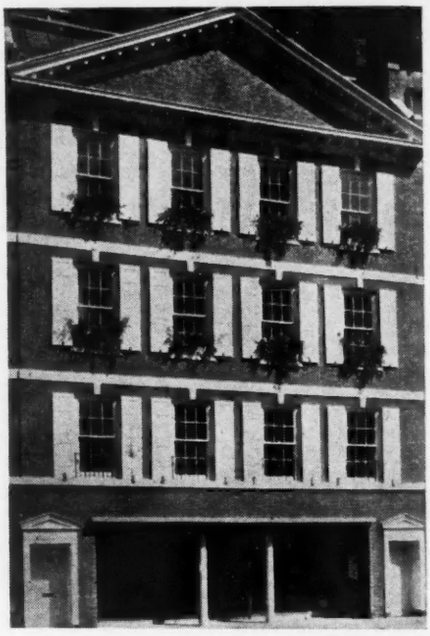
Fabric Research. A two-year research project on the improvement of Army uniform fabrics will be undertaken by the American Association of Textile Chemists & Colorists as the result of a decision just announced by the council of the association to accept a government contract for $40,000 for carrying out this work. The investigation will be carried out under the supervision of Dr. Harold W. Stiegler, director of research for AATCC.

Yarn Men's Anniversary. The Chicago Yarn Men's Club celebrated its 25th anniversary June 25 with a banquet for executives of the hosiery and underwear industry of the Middle West in the Stevens Hotel, Chicago. On June 26, the knitting mill executives were again guests of the yarn men when over 125 attended the 22nd golf tournament of the Club at Barrington Hills Country Club, Barrington, Ill. Arthur H. Emerson, president of the club, distributed the prizes. Arthur Medlicott, of Real Silk Hosiery Mills, Indianapolis had low net. Low gross was won by John W. Dutcher, of Fox River Valley Knitting Co.

Research Group Elects. Industrial Research Institute, Inc., held its eighth annual meeting on June 6 and 7 at the Statler Hotel, Cleveland, Ohio. C. S. Venable, director of chemical research, American Viscose Corp., Marcus Hook, Pa. was elected president and N. A. Shepard, chemical director, American Cyanamid Co., New York, N. Y. was elected vice president.

Chemists Elect. Manufacturing Chemists Association of the United States elected officers and 15 executive committee members at its annual meeting June 6, at Skytop, Pa. Charles S. Munson, chairman of the executive committee, U. S. Industrial Chemicals, Inc., was elected president to succeed H. L. Derby, president of the American Cyanamid & Chemical Corp. Leonard T. Beale, president of Pennsylvania Salt Mfg. Co., Philadelphia, and H. O. C. Ingraham, vice president of the General Chemical Co., were elected vice presidents.

New Secretariat Location. The International Wool Secretariat in the United States has leased for ten years the entire second floor of 201 East 57th St., New York, for its headquarters. Morton Savell is managing director. The space includes a large salon for fashion shows and exhibits of wool textiles. A complete library of publications and photographs devoted to wool will also be available. Charles Mathieu, Jr., has been named director of information, and Miss Helen Harper fashion director. Earl Newsom & Co. will continue to act as public relations counsel and Mrs. June Hamilton Rhodes of the Bureau of Fashion Trends will continue to act as fashion and promotion counsel.



GOODALL FABRICS, INC. has consolidated all divisions of its decorative fabrics business into a five-story colonial building at 525 Madison Ave., New York. Eleanor Le Maire, interior designer, redesigned the building to Goodall's post-war needs. She has created an effect of easy spaciousness and a soundly simple background for showing Goodall fabrics.

Japs Get American Cotton. First shipments of American cotton to Japan reached Kobe last month. These shipments comprise 43,311 bales, out of the 890,000 bales of American cotton scheduled to reach Japan this year. Of the cotton sent to Japan, 60% will be made up into goods and then re-shipped to the U. S., as payment for the raw cotton. The remaining 40% will go into local Japanese consumption.

Corn Starch Scarcity Still Serious. Unless some prompt action was taken by the Secretary of Agriculture to make corn supplies available, the corn milling industry faced a suspension of operations. A relatively small amount of corn is required to keep the corn wet milling industry going. Slightly over 40 million bushels are needed to operate the entire industry until the new crop is harvested. Government action early in July gave hope that modest supplies would be allocated.

"... like stuff that dreams are made of..."

Women dream of clothes, lingerie ... and hose ... that will be excitingly lovely, with the indefinable air of beauty. Yet their practical souls demand that this loveliness be no passing thing. DuraBeau finishes, *tailored to fit the fabric*, fill both these desires. For DuraBeau adds new beauty ... making even the finest fabrics "like stuff that dreams are made of." And this beauty lasts longer, since DuraBeau imparts a "film of protection."

DuraBeau

REG. U. S. A. AND CANADA

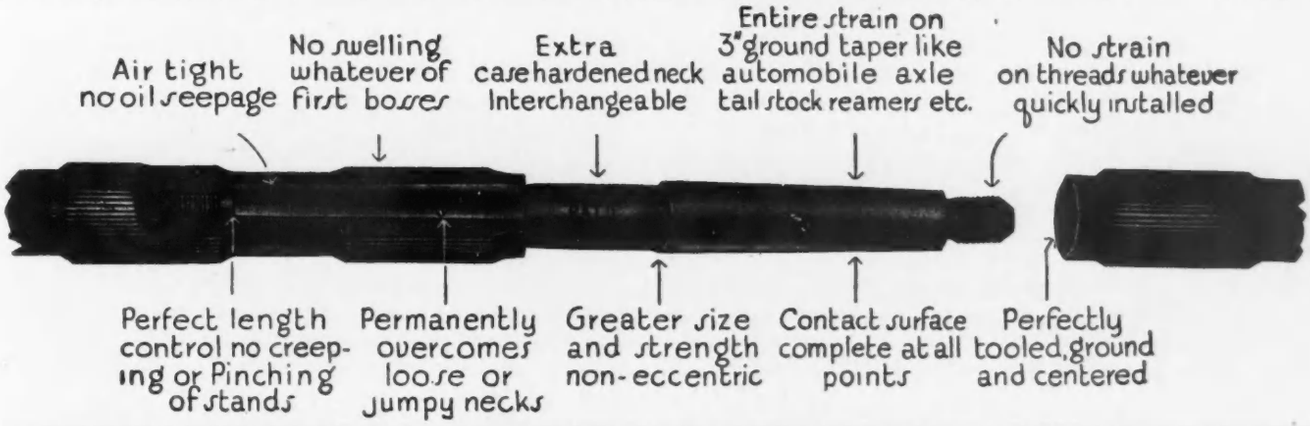
SCHOLLER BROS., INC.

Mfrs. of Textile Soap, Softeners, Oils, Finishes • Collins & Westmoreland Sts., Phila. 34, Pa. • St. Catharines, Ont., Can.

SPECIAL ANNOUNCEMENT

All makes and kinds of NEW FLUTED steel rolls furnished in any quantity, equipped with:

GUILLET'S INTERCHANGEABLE TAPER FITTING CASE HARDENED ROLL NECKS, AS GRAPHICALLY ILLUSTRATED BELOW:


Air tight no oil seepage
No swelling whatever of first bosses
Extra case hardened neck Interchangeable
Entire strain on 3" ground taper like automobile axle tail stock reamers etc.
No strain on threads whatever quickly installed
Perfect length control no creeping or Pinching of stands
Permanently overcomes loose or jumpy necks
Greater size and strength non-eccentric
Contact surface complete at all points
Perfectly tooled, ground and centered

★ **Any type DRAFTING ROLL EXACTLY DUPLICATED to blueprint.**

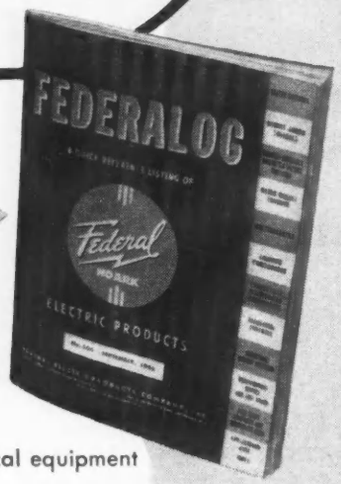
★ **Entire roll PLATED with HARD CHROMIUM adding indefinite WEARING QUALITIES and ideal for RAYON DRAFTING**

Write for Free Circular.

DIXIE SPINDLE AND FLYER CO., INC., CHARLOTTE, N. C.

1906 N. Brevard Street **ALBERT M. GUILLET, President** **Telephone 3-1377**

You'll find everything you want to know about Motor Controls...in the FEDERALOG



Bring your electrical equipment data file up to date . . . with a copy of the FEDERALOG! Just off the press, the FEDERALOG is one of today's most-needed catalogs on Motor Controls, Safety Switches, Circuit Breakers, Service Equipment, Panelboards and Multi-Breakers. Mail the coupon today!

MOTOR CONTROLS FOR THE TEXTILE INDUSTRIES

MANUAL A.C. STARTER. Bulletin 404—available for motors up to 5 hp 220 v and 7½ hp 440-600 v.

FEDERAL ELECTRIC PRODUCTS CO., INC.
50 Paris Street, Newark 5, N. J. (Dept. T-3)

Please send a copy of the FEDERALOG to:

Name and Title_____

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NEWS ABOUT Suppliers

Universal Winding Co., Providence, R. I.—Parkman D. Howe has retired as executive vice president. He has been with the company since 1931, serving as treasurer until the war period, at which time he assumed the presidency in the absence of Robert Leeson, who was serving with the Navy. Since Jan. 1 of this year, he has been executive vice president. He remains as a director of the company. Universal Winding Co. has appointed Charles C. Bell as director of research and development. A newcomer in the field of textile machinery, Mr. Bell has had a diversified experience gained through 15 years of complex machinery research. Throughout the war he directed the research and development of many technical projects for the armed services. A graduate of M.I.T., he is the son of the late Alonzo C. Bell, electrical engineer, who pioneered the development of the self-starting, single-phase motor. C. C. Bell has worked for nine years in an administrative engineering capacity in the research division of the United Shoe Machinery Corp.

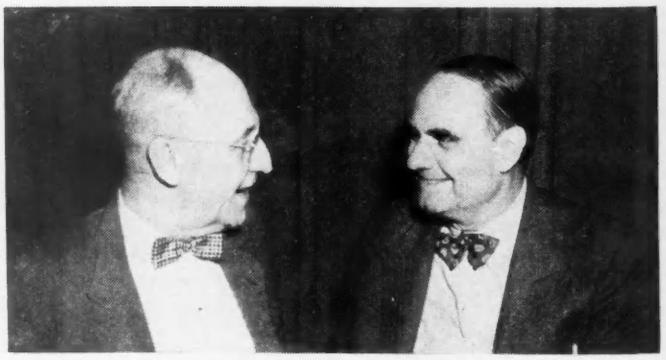
Proctor & Schwartz, Inc., Philadelphia, is holding a photographic exhibit in the Franklin Institute Scientific Museum in Philadelphia during July. It is one of 12 industrial firms in the Philadelphia area invited by the institute to install a photographic display this year. The Proctor exhibit features nearly 100 photographs. It was planned by John Reinhardt, advertising manager, and nearly all the photographic work was by the firm's photographer, Parke Schaffer.

Fletcher Works, Philadelphia, has appointed Tom Baldridge, a graduate of the Philadelphia Textile Institute, to represent it in the sale of its throwing machinery in the Pennsylvania and New England territories.

James Hunter Machine Co., North Adams, Mass., has donated to the laboratory facilities of the Chemistry Department at Lowell Textile Institute, Lowell, Mass., one of the newest models of stainless-steel dye kettles, complete with motor and accessories. Prof. E. E. Fickett is in charge of the Chemistry Department.

Willcox & Gibbs Sewing Machine Co., New York, sole agents in the United States and Canada for Cornely embroidery machines, recently received the first shipment of machines from the manufacturers, R. Cornely & Co., Paris, France, since shortly before World War II began in September, 1939.

E. F. Houghton & Co., Philadelphia, has appointed Dr. James



SKF SETS EXAMPLE OF MANAGEMENT-UNION HARMONY. A new industry-wide trend in management-union relationships may be symbolized by this picture made recently in Philadelphia. Folllowing signing of a new labor contract affecting 3,000 wage employes of SKF Industries, Inc., William L. Batt (right) president of that firm, proposed that the consummation be marked by a joint meeting of plant foremen and union stewards of the United Steelworkers of America (CIO). Clinton S. Golden (left), international vice president of the union, accepted Batt's offer and declared it was the first time to his knowledge that management had offered to celebrate peaceful settlement of collective ba-gaining negotiations.

Style 27

LANE BASKET TRUCKS

Smooth - Light - Durable

Designed for
All Textile, Garment, and
Many Other Industrial Plants

W. T. Lane & Bros., Inc.
Mfrs.
Poughkeepsie, N. Y.

DAVIS AND FURBER

Earn a Manufacturing Profit By Using the Best Machinery and Supplies

DUSTERS
PICKERS
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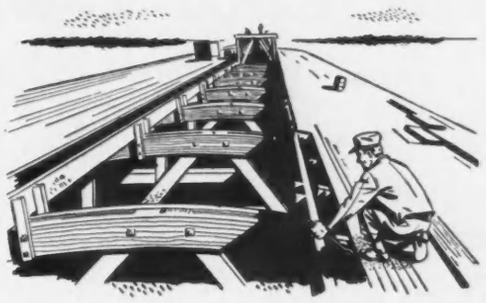
DRESSING FRAMES
NAPPERS
CARD CLOTHING
NAPPER CLOTHING
GARNETT WIRE
LEATHER RUB APRONS
LEATHER CONDENSER TAPES

DAVIS & FURBER
NORTH ANDOVER, MASS.

THE ACCEPTED STANDARD

Up where trouble threatens..



Build in Protection with

WOLMANIZED LUMBER*

On roof structures, where moisture condenses, soaks into every niche and cranny . . . starts rot spots . . . Wolmanized Lumber is needed, badly! Why? Because in this lumber, impregnated with Wolman Salts* preservative by pressure treatment, rot will not set in. Your roof trusses and decks . . . Wolmanized . . . will give you many more years of service where rot-producing moisture is present.

LUMBER with a PLUS!

Wolmanized Lumber gives you all of wood's advantages . . . speed of erection, light weight, resilience, high insulating value, paintability, low first cost . . . long life.

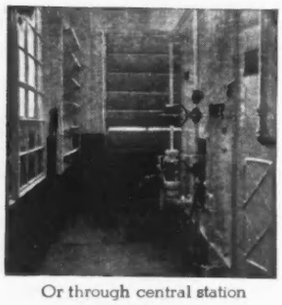
*Registered trademarks

1672 McCORMICK BUILDING, CHICAGO 4, ILLINOIS

Own Your Own Weather

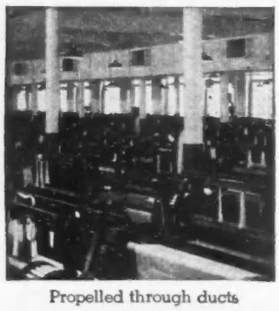
Air enters through Airchanger unit

Regain higher and more dependable. Greater strength and more uniformity in numbers.



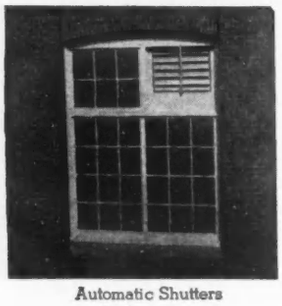
Or through central station air washer

Drafting of Fibers smoother and more compact. Waste and fly reduced to a remarkable degree.



Propelled through ducts

Fewer Breaks. Not as many stops or piecings. Not as many adjustments. Cleaner and very much more comfortable rooms.



Automatic Shutters let heat out

Better Product. And very often as much as 2% more production.

Certified CLIMATE with its exclusive method of control has been known to PAY FOR ITSELF in a year, or less.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

NEWS ABOUT SUPPLIERS

T. Eaton, formerly research assistant to the vice president, to be manager of research, in charge of the company's laboratories and product development. Henry H. High, formerly superintendent of laboratories, has been named superintendent of the Philadelphia oil department, in place of D. M. Harvey, resigned.

American Viscose Corp. and **Sylvania Industrial Corp.,** New York, as previously reported, have entered into a formal agreement for the acquisition of the business and properties of Sylvania by Viscose subject only to the vote of their stockholders and the completion of formalities which are expected within 60 days. Dr. Frank H. Reichel has been elected chairman of the board of American Viscose Corp., succeeding John G. Jackson, whose resignation was accepted at his request. Mr. Jackson will remain as a director and was also elected general counsel of the corporation. Dr. Reichel is president of Sylvania Industrial Corp., and has been a director of Viscose for the last two years.

S. C. Johnson & Son, Racine, Wis., has appointed R. W. Carlson, sales manager, to be a member of the firm's management committee where he is now in charge of all sales and merchandising. A. O. Fisher has been moved from Cleveland to Racine to become field sales manager. Robert F. Vance was promoted from advertising service manager to assistant advertising manager.

Philadelphia Quartz Co., Philadelphia, marks its 115th anniversary in business on July 21. From the small soap and candle factory established in 1831 by Joseph Elkinton, great-grandfather of the present company head, the enterprise has developed into a national producer of silicates of soda with plants in Anderson, Ind.; Baltimore, Md.; Buffalo, N. Y.; Chester, Pa.; Jeffersonville, Ind.; Kansas City, Kan.; Rahway, N. J.; St. Louis, Mo., and Utica, Ill. The present firm name was first used in 1864 when a partnership was formed to produce silicate of soda used in the soap in a separate plant.

E. I. du Pont de Nemours & Co., Wilmington, Del., Acetate Division, has named W. T. Wood, formerly plant manager of the acetate rayon plant at Waynesboro, Va., to be director of production; A. W. Frame, director of production for the last five years, continues in an advisory capacity for the division;

ALBERT M. GUILLET, JR., who recently returned from wartime service with the U. S. Maritime Commission, has rejoined Dixie Spindle & Flyer Co., Charlotte, N. C., as secretary.

and M. G. Jones, present assistant plant manager at Waynesboro, succeeds Mr. Wood. DuPont has established a Nylon Section in the Chemical Division of its Ammonia Department to centralize all the department's research and development work on chemicals used in making nylon. Dr. E. C. Kirkpatrick is director of the new Nylon Section.

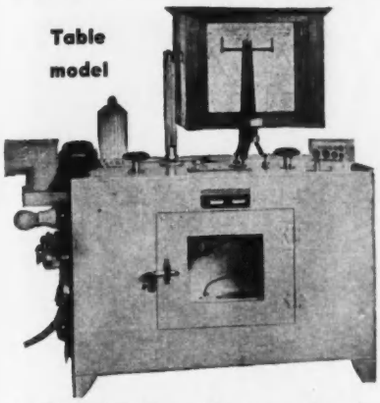
National Starch Products, Inc., New York—Frank Greenwall, president, has recently returned from a visit via Pan-American World Airways to his company's English and Dutch factories. He reports both factories undamaged and in full production.

Organic Chemicals Department of E. I. du Pont de Nemours & Co., has transferred Samuel A. Pettus and J. Raymond Nehmans to the promotion staff of its Textile Service Section, 40 Worth St., New York. Their new duties will concern the promotion of "Zelan" durable repellent and "Aridex" water repellent finishes, as well as other products of the Fine Chemicals & Dyestuffs Divisions.

Kaumagraph Co., Wilmington, Del—Helen V. Laffan, head of the company's order department, has retired after 26 years with the organization.

Victor Chemical Works, Chicago, has appointed F. M. Anable as assistant to the vice president with headquarters at the general offices of the company in Chicago, moving from Victor's Chicago Heights plant where he

Textile Testing Ovens



Eight-Basket Oven—Can be equipped with 8 Baskets—3" x 3" square, and 6" deep; or with 6 Baskets, 4¼" x 4¼" and 6" deep. Sets on table in space of 20" x 40."

Check Yarn Samples for Moisture

Test all your yarn, stock in process, and finished goods—for moisture content—with accuracy. Weighing can be made without opening the oven door.

EMERSON Ovens

Are built in different types to handle wool, cotton and silk. Equipped with baskets to fit the work. Write for details on EMERSON OVENS to fit your process.

EMERSON APPARATUS CO.
177 Tremont St., Melrose 76, Mass.

TIME-TESTED TIPS FOR MILL MAINTENANCE MEN

Easy, Safe Way to Clean and Protect Reeds!

Are you using gasoline and palm oil to remove rust and other deposits from steel reeds? There is a much safer way to remove these deposits. It's the easy Oakite way!

Simply brush reeds in recommended solution of Oakite Compound No. 36, and see how quickly this mildly acidic cleaner softens and removes rust formations. It does not harm reed surfaces . . . involves no fire hazards or unpleasant fumes. Try it at the next clean-up!

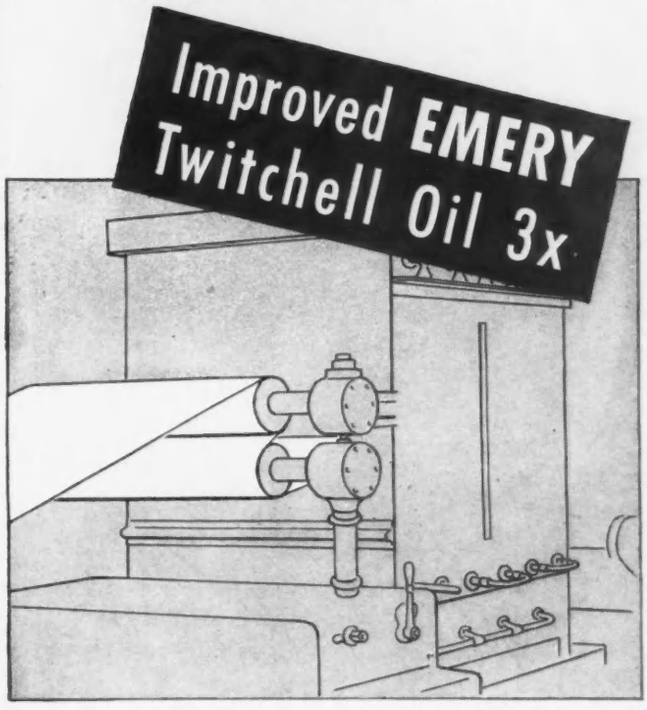
Then, to protect reeds in storage, apply Oakite Special Protective Oil and seal out shop humidity! Write on letterhead for full FREE details!

OAKITE PRODUCTS, INC., 42 Thames St., NEW YORK 6, N. Y.
Technical Service Representatives Conveniently Located in All Principal Cities of the United States and Canada

OAKITE *Specialized* **CLEANING**
MATERIALS · METHODS · SERVICE · FOR EVERY CLEANING REQUIREMENT

An Oil for Sanforized Finishing that is...

NON-OXIDIZING...
NON-STAINING



Check these important advantages of Emery's Twitchell Oil 3X in your Sanforizing operations.

1. Fast, uniform rewetting
2. Retention of rewetting properties
3. Freedom from oxidation and staining
4. Low volatility—no volatile coupling agents
5. Lubricity imparted to Sanforizing shoes
6. Absence of gumminess in or deterioration of Palmer blanket
7. Compatability with starches, gums and other ingredients of finishing formulae
8. Low cost

Emery's Twitchell Oil 3X is recommended also for increasing the water absorbency of toweling, wiping cloths, paper-maker's felts, etc., and for all regular finishing operations.

EMERY INDUSTRIES, INC. — TWITCHELL OIL 3X

CAREW TOWER · CINCINNATI 2, OHIO
3002 Woolworth Bldg. NEW YORK 7, N. Y. · 187 Perry St. LOWELL, MASS. · 401 N. Broad St. PHILADELPHIA 8, PA.

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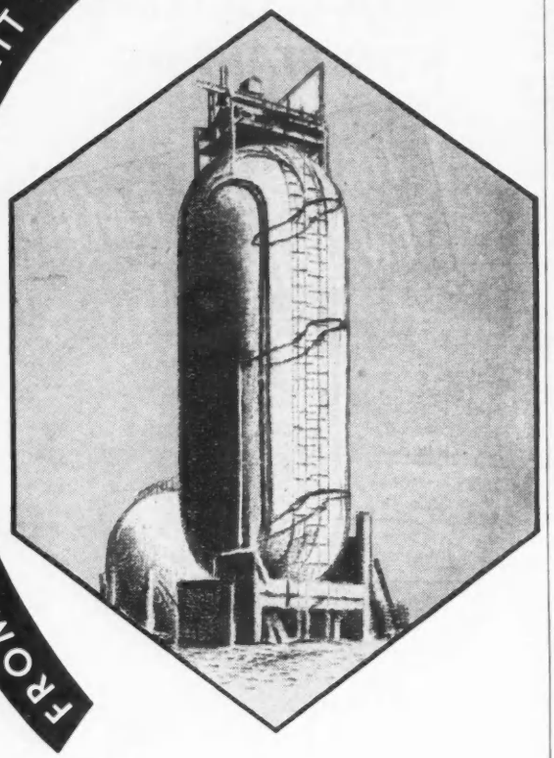
TWITCHELL PRODUCTS · PLASTICIZERS

FROM THE CATALOG OF BARRETT BASIC CHEMICALS



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For complete information phone, wire or write—

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THE BARRETT DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

Barrett

ONE OF AMERICA'S GREAT BASIC BUSINESSES

has been superintendent of production for the last two years.

Henry K. Barnes Co., Salem, Mass.—Walter W. Ray, vice president of this company, spent two weeks in May visiting textile centers and tanneries in England. He found British woolen and cotton centers coming back fast, but he reports that British makers of textile leathers do not work their product as thoroughly as do similar manufacturers in the U. S.

Air-Perme-Ator Co., Paterson, N. J., is now occupying its new plant at 302 Preakness Ave., with larger space and improved equipment. The company's air-conditioning equipment is based on the patents of John Kohut related to molecular suspension of moisture.

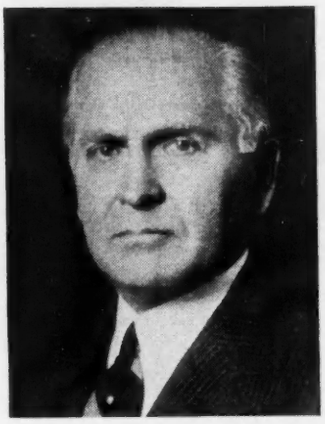
Walter Kidde & Co., Inc., Belleville, N. J., has elected to its board of directors C. Thurston Woodford, a vice president and director of McCampbell & Co., textile commission house, New York. He is also a vice president and director of Edna Mills Corp., Reidsville, N. C.

Brown Instrument Co., Philadelphia, has purchased the five-story and basement structure at 2221 North Broad St. after having occupied portion of the building under lease for warehouse. The building will be used for further expansion.

Acme Steel Co., Chicago, has reappointed G. R. Easley, recently returned from nearly four years in the Army, to service Acme's South Carolina customers. His headquarters is Greenville, S. C. In the Army he was a QM packing and crating officer, and later held the position of operations officer.

Pennsylvania Salt Mfg. Co., Philadelphia, has appointed Walker Penfield as manager of manufacturing. He was works manager. He will now assist and advise the vice president in charge of manufacturing on improvement of manufacturing operations and fixing of manufacturing policies.

Yale & Towne Mfg. Co., Philadelphia, has appointed Robert J. McGreevy of McDonald, Pa., recently discharged from the Navy, to be district manager of industrial truck sales-engineering for the metropolitan New York City area. He will be associated with Carl E. Lang, recently appointed New York district manager of industrial truck sales-engineering, with offices in the Chrysler Building, New York.



EDWIN M. ALLEN, who has retired from his post as chairman of the Board of The Mathieson Alkali Works, but will continue as a director of the company. Mr. Allen joined the Mathieson organization as president in 1919.

The B. F. Goodrich Co., Akron, Ohio—G. K. Ryan, manager of sales for elastic yarn, rubber thread, and golf ball products of the company has resigned from that position after continuous service with Goodrich since 1911.

General Electric Co., Bridgeport, Conn., has appointed F. B. Ennis as manager of manufacturing of the Wiring Device Division. He has recently been superintendent of the Wiring Device Section of the company's Bridgeport works. C. N. Bristol has been appointed superintendent of the company's York, Pa., works. GE has appointed G. R. LaWall as quality control engineer in the Wiring Device & Accessory Equipment Divisions. Harry K. Collins has been appointed manager of the Resin & Insulation Materials Division.

International Business Machines Corp., New York, has promoted Edward M. Douglas, previously executive assistant, to the position of vice president of the company. He has been connected with IBM for more than 20 years in various sales, sales management, and executive capacities. IBM has elected Thomas J. Watson, Jr., a vice president of the company. He was previously assistant to the executive vice president.

Canadian Aniline & Extract Co., Ltd., Hamilton, Ontario, is now building a new $125,000 unit to produce the Kloranol, Viscanol, and Cannaterge powder

DON'T LET A QUESTION MARK

OVERHANG YOUR FUTURE OPERATIONS...

We lay no claim to being prophets and we possess no crystal ball which foretells the future.

But we can tell you this much right now with certainty – – the industries which survive and reap the golden profits in the post-war era will be those which keep abreast of the times . . . in manufacturing techniques . . . in modernization of plant facilities and equipment . . . in complete preparation for reconversion now . . . and in changing and improving their methods to meet constantly changing conditions in the years to come.

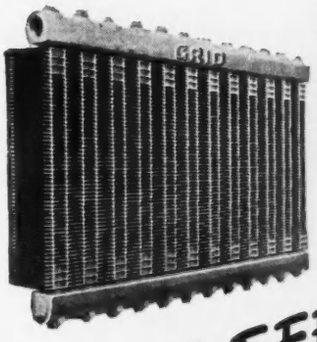
We Offer A Complete Service
In All These Fields

THE McPHERSON COMPANY
Greenville, South Carolina

Industrial Engineers

INDUSTRIAL SURVEYS • PLANT SITE INVESTIGATIONS • COMPLETE PLANT DESIGNS • APPRAISALS • VALUATIONS • LABOR SAVING STUDIES • RESEARCH & REPORTS • PROCESS ANALYSIS • PLANS

TEXTILE MILLS – BLEACHERIES – RAYON PLANTS – PULP & PAPER MILLS – DYE HOUSES – KNITTING MILLS – HOSIERY MILLS WATER TREATMENT – INDUSTRIAL WIRING – STEAM UTILIZATION – WASTE DISPOSAL – ELECTRIFICATION



HERE'S A SOLUTION TO CLOTH DRYING PROBLEMS

INEXPENSIVE BUT EFFICIENT!

GRID BLAST SECTIONS!

One Piece Heating Sections

INVESTIGATE GRID Blast Sections (coils) as a solution to your cloth drying problems. They're efficient but inexpensive and being made of high test cast iron, withstand steam pressures up to 250 lbs., without maintenance expense. The one piece construction heating sections (patented) have no tortuous air passages, and being compact they occupy minimum space. They have no soldered, brazed, welded or expanded connections to become loose. And, being made of one type metal, no electrolysis can develop to cause corrosion.

HIGH TEST CAST IRON HEATING SECTIONS

Also, for fog removal use the reliable GRID Unit Heater. Complete details upon request. Write for booklet "Corrosion in Unit Heaters."

D. J. MURRAY MANUFACTURING CO. WAUSAU WISCONSIN

NOW! Morflex Junior Couplings for Smaller Power Applications

PROOF AGAINST DUST and DIRT
ABSORB SHOCK and VIBRATION

They extend machinery life in small power-drives. The exclusively Morse-designed Neoprene biscuit assembly, preloaded under pressure, *packs the load.* It's torsionally resilient; allows better, smoother power transmission.

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MORSE *ROLLER and SILENT CHAINS*
SPROCKETS • FLEXIBLE COUPLINGS • CLUTCHES

A PARTNER WHO EXPECTS *No* PROFITS

Trust Company of Georgia Factoring, in effect, can be a partner in your business who expects no share of the profits. Factoring makes possible greater volume — by providing cash immediately on shipment of merchandise.

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FACTORING DIVISION

TRUST COMPANY OF GEORGIA

ATLANTA, GEORGIA

Next door to every mill in the South

series. This expansion will allow for double the present floor space.

Westinghouse Electric Corp., Pittsburgh, Pa., has elected W. O. Lippman as a vice president. He will be responsible for all plant labor relations.

Metallizing Co. of America, Chicago, Ill., has moved its eastern office and warehouse to 431 East 75th St., New York 21, N. Y.

Vernon H. Van Diver, New York, has resigned from Union Carbide & Carbon Corp. and opened his own business as merchandising and advertising counselor with offices in New York. He will also head The Brad-Vern Co., advertising agency, at Garden City, N. Y.

Monsanto Chemical Co., St. Louis, Mo., has promoted Sam R. Clement, assistant general branch manager of its Birmingham sales district, to be assistant general manager of sales of the Phosphate Division at St. Louis.

Diamond Alkali Co., Pittsburgh, has received the approval of CPA to construct a $5,750,000 electro-chemical plant at Houston, Texas, for the manufacture of chlorine, caustic soda, and muriatic acid. Construction at the newly-purchased 280-acre plant site will begin in about 60 days.

Reliance Electric & Engineering Co., Cleveland, Ohio.—A. M. MacCutcheon, senior vice president of the company retired July 1 as an officer and director.

The Wiremold Co., Hartford, Conn., has appointed Wynne Snoots of Dallas, Texas, to succeed O. T. (Tom) Jenkins who retired on July 1 after representing the company in Texas and Oklahoma for the last 25 years.

Bury Compressor Co., Erie, Pa., has elected B. C. O'Brien as president and general manager. Prior to joining the Bury Compressor Co., he was with the Roots-Connersville Blower Corp. as vice president and sales manager.

Seiberling Rubber Co., Akron, Ohio, has acquired the former Continental Motors war plant at Garland, Texas, for the purpose of increasing its production facilities.

Penn Industrial Instrument Corp., Philadelphia, Pa., has elected J. T. Vollbrecht as a director. Mr. Vollbrecht is president of the Energy Control Co.

Roots-Connersville Blower Corp., Connersville, Ind., has elected Robert H. Owens as vice president in charge of engineering and manufacturing.

Pittsburgh Plate Glass Co., Pittsburgh, Pa., is currently marking the 50th anniversary of the establishment of its warehousing system. In 1896, just 13 years after plate glass first was produced successfully at its Creighton, Pa., plant, the company acquired eight glass jobbing concerns.

International Nickel Co., Inc., New York, has appointed Walter C. Kerrigan as manager of its nickel sales department to succeed the late Rudolph L. Suhl.

International B. F. Goodrich Co. has appointed Alfred Cutler as European sales representative, with headquarters in Switzerland.

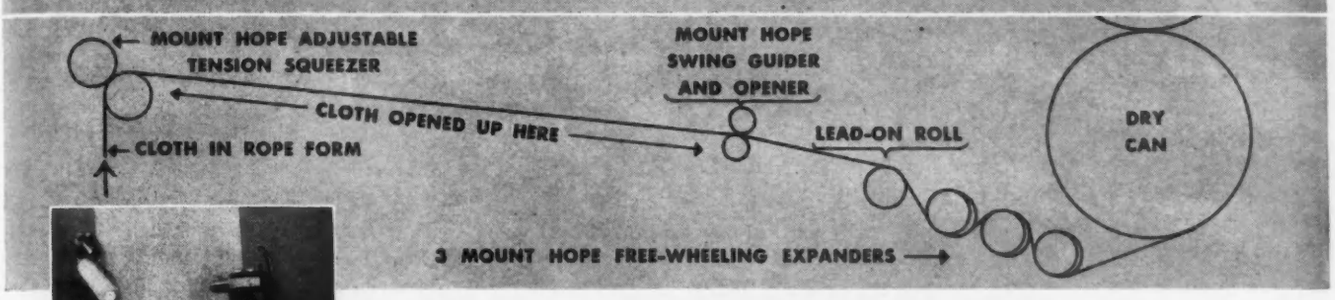
Goodyear Tire & Rubber Co., Akron, Ohio, has appointed Ian D. Patterson to the newly-created post of assistant manager, chemical product development division.

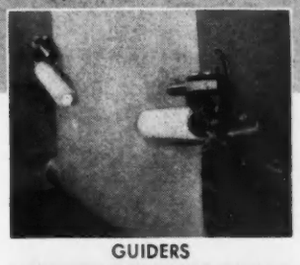
Taber Instrument Corp., N. Tonawanda, N. Y., has enlarged its public relations department. L. S. Barker, vice president, who has been serving as public relations director for the last three years in addition to his other management duties, will now concentrate on sales development and customer relations work. Named to succeed him as public relations director, is Arthur P. Schulze, filling the newly-created post of assistant to the vice-president.

To Study German Paper Cone Production

German manufacture of paper tubes and cones for the textile industry will be investigated by two technical experts, Henry J. Feeley, chief engineer, American Paper Tube Co., Woonsocket, R. I.; and J. H. Martin, general production manager, Sonoco Products Co., Hartsville, N. C., under sponsorship of the Technical Industrial Intelligence Branch, Department of Commerce. The findings will be made public through the Office of the Publication Board, Department of Commerce.

GETTING MAXIMUM WIDTH *on Rayon Marquisettes*
As Practiced by a Well Known Finisher


MOUNT HOPE ADJUSTABLE TENSION SQUEEZER
CLOTH OPENED UP HERE
CLOTH IN ROPE FORM
MOUNT HOPE SWING GUIDER AND OPENER
LEAD-ON ROLL
DRY CAN
3 MOUNT HOPE FREE-WHEELING EXPANDERS



GUIDERS

EXPANDERS

WHAT THIS FINISHER SAYS ABOUT:—

SWING GUIDERS AND OPENERS— Saving in labor; handle goods safely, easily adjusted, quiet.

FREE-WHEELING EXPANDERS — Easy to keep clean; give maximum stretch with minimum warp tension; eliminate creases and wrinkles; handle goods safely.

Tell us your cloth opening, guiding, or cross-stretch problem and let us make recommendations free of charge.

MOUNT HOPE MACHINERY COMPANY
42 Adams St., Taunton, Mass.

REPRESENTATIVES—John H. Andresen, Inc., 138 Grand St., Paterson, N. J.; Ingalls Engineering Co., 1214 Union Trust Bldg., Providence 3, R. I.; Slaughter Machinery Co., Charlotte 1, N. C.; Sidney Springer, 316 Commercial St., Los Angeles 12, Calif.; W. J. Westaway Co., Ltd., Hamilton and Montreal 3, Canada.

MOUNT HOPE CLOTH HANDLING DEVICES

WE'VE LEARNED A LOT IN OUR 50 YEARS

50 years of specialized experience in producing tanks and tubs for the textile industry *has taught us some things that will be valuable to you!*

Let us tell you about our complete Caldwell service, which includes Stainless Steel-lined tanks and tubs—round, rectangular and special shapes.

Catalog on request.

W. E. CALDWELL CO.
INCORPORATED
2060 Brook St. Louisville, Ky.

Caldwell TANKS AND TOWERS

for Better Belt Joints

To keep belts in service longer, use only GENUINE Clipper Belt Hooks applied with Clipper Belt Lacers.

use Clipper Belt Hooks

Clipper Hooks are made of the finest quality wire—BETTER than ever before—produced for our exclusive use. Hooks hold with firm, sure grip—give longer satisfactory service.

and Clipper Belt Lacers!

The Clipper No. 9 Portable Lacer laces belts up to 6 inches wide in one quick, easy operation. Under powerful pressure hook legs are embedded flush with the surface of the belt and points clinched, making a perfect joint. Phone your mill supply jobber for a demonstration!

CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN, U.S.A.

Clipper BELT LACING EQUIPMENT

Although WHITMAN, as an organization, is old in years, it is young in personnel, in outlook, in methods. It is geared for modern, up-to-date merchandising and mill operation.

Mills of the WHITMAN group, all of them organizations of prestige, receive these services:

- Selling by a young, aggressive staff, well grounded in textiles, with a keen knowledge of markets.
- Styling with an objective toward fashion trends but an awareness of manufacturing problems and limitations.
- Cooperation when desired on taxation and general management problems.

Inquiries are invited from non-conflicting accounts.

ARLINGTON MILLS *Lawrence, Mass.*

MONOMAC SPINNING CO. *Lawrence, Mass.*

NONQUITT MILLS *New Bedford, Mass.*

NASHAWENA MILLS *New Bedford, Mass.*

WILLIAM Whitman COMPANY, INC.

General Offices: 261 Fifth Avenue, New York 16, N. Y.

Cotton and Rayon Fabrics Division: 40 Worth Street, New York 13, N. Y.

BOSTON 78 Chauncy Street · CHARLOTTE Commercial Bank Building · PHILADELPHIA 1600 Arch Street · LOS ANGELES 820 South Spring Street

NEWS ABOUT Mills

Cotton Mill News

Bibb Mfg. Co., Macon, Ga., will increase its capital stock by $5,000,000 to provide sufficient capital for expansion.

Callaway Mills, La Grange, Ga., is making changes at its Valway and Dye plants to provide for increased production and expansion, and 75,000 sq. ft. of manufacturing space will be added. Carding and spinning equipment is being added at the Dye plant to provide yarn for the Valway plant.

Charm Tred Mills, Inc., Chicago, Ill., has confirmed its purchase of Monticello Cotton Mills, Monticello, Ark. The acquisition enables the purchaser to control the complete production of cotton rugs from the spinning of yarns to the finished product. The company also plans to open a modern rug mill in Monticello.

Drummondville Cotton Co., Ltd., Drummondville, Que., has begun construction of a two-story and basement addition to cost about $80,000, with equipment.

Faytex, Inc., Fall River, Mass., recently chartered, plans operation of a mill making cotton goods. Isador S. Levin is president.

Fluf Tex Corp., Fall River, Mass., has been formed with capital of $15,000 to operate a cotton mill. Ernest C. Holding is president and treasurer.

Naumkeag Steam Cotton Co., Salem, Mass., is installing a humidifying system in its Pequot Mills at a cost of $17,777. American Moistening Co., Providence, R. I., is making the installation.

Pee Dee Mfg. Co., mills No. 1 and No. 2, Rockingham, N. C., have been sold to M. M. Clairmont, head of Elsmere Corp., New York. The new owners will continue operations without interruption and no personnel changes are expected at present.

Phenix Mills, Inc., Kings Mountain, N. C., a subsidiary of Burlington Mills, has sold its No. 1 mill to Fifth Operating Corp., New York, N. Y., of which Courtland Palmer is president. The new owner will operate the mill as Du-Court Mills, Inc., and C. G. White will remain as superintendent. Burlington Mills will continue operation of mill No. 2.

Piedmont Cotton Mills will, according to reports, close its Egan, Ga., plant until legislation is enacted which will permit profitable operation. Production will continue until stock is run out.

Riegel Textile Corp. is a new corporation organized to take over the business and assets of Trion Co., Trion, Ga., Ware Shoals Mfg. Co., Ware Shoals, S. C., and their selling agent, Riegel Textile Corp., New York, N. Y.

Saxon Mills, Spartanburg, S. C., has a modernization program under way. New machinery is being installed and old equipment overhauled.

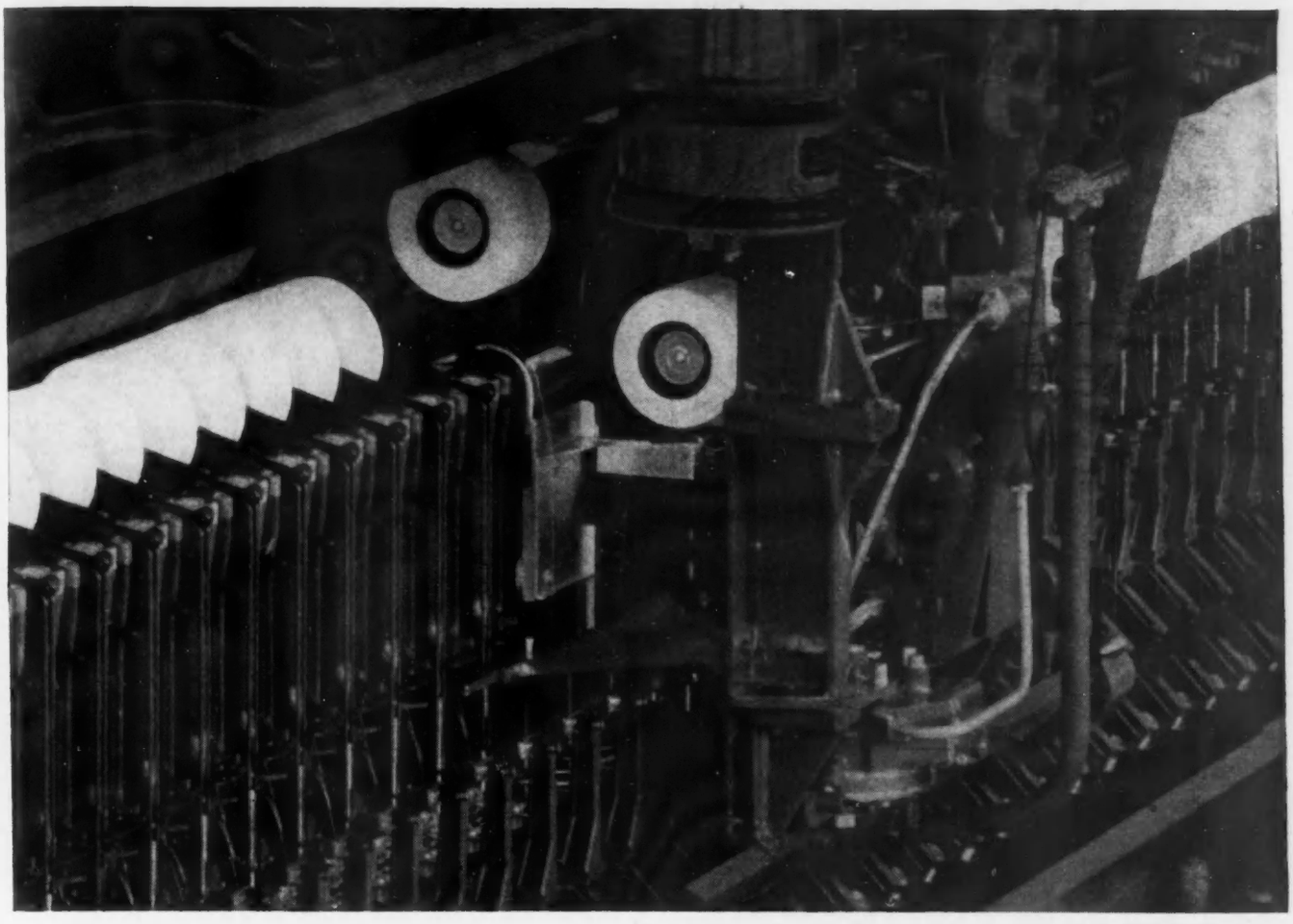
Southeastern Cotton Mills, Waco, Tex., is the new name of the former Brazos Valley Cotton Mills plant which was recently sold. George A. Horvath and Akos Horvath, both of New York, are president and treasurer, respectively. W. C. Bowden is superintendent.

United Elastic Corp., Easthampton, Mass., has purchased West Boyleston Mfg. Co., Montgomery, Ala., and, when present orders for tire cord are filled, will convert it partially to the production of weaving yarns.

Wabasso Cotton Co., Ltd., Three Rivers, Que., has awarded contract to Bellefeville & Cheney, Ltd., Three Rivers, for a mill at Grand Mere, Que., where a site was recently purchased. Cost, with equipment, about $100,000.

Waxhaw Cotton Mills Co., Waxhaw, N. C., has been sold to Robert Spilman, Statesville, N. C., for $312,800. The mill produces carded weaving and mercerized yarns.

BARBER-COLMAN AUTOMATIC SPOOLER



THIS machine delivers a better package to the warper, resulting in better beams to the slashers, better loom beams to the weave shed, and better cloth to the finishers. This means less warper stops, more efficient slashing, fewer loom stops, and less seconds — all valuable advantages in the coming competitive market. Barber-Colman equipment has proved its ability to increase production and lower costs; experience has shown that it gives very little trouble, requires few repairs and very few service calls, and delivers a uniform package steadily with a minimum of down time. *Ask your Barber-Colman Representative for complete information.*

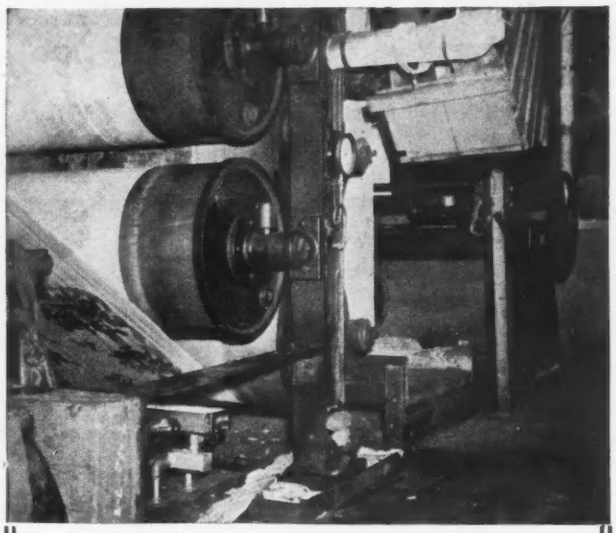
..THIS MACHINE IMPROVES THE QUALITY OF EVERY FOLLOWING STEP IN CLOTH PRODUCTION

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND



DRYING PRINT GOODS
WITH
RED-RAY RADIANT HEAT BURNERS

Faster Drying — Better Drying

WRITE FOR BULLETINS

RED-RAY MANUFACTURING CO., INC.
455 West 45th Street New York, N. Y.

SOLVENTOL

PAINT AND TAR REMOVER FOR WOOL

BURKART-SCHIER CHEMICAL CO.
CHATTANOOGA, TENNESSEE

QUALITY SHUTTLES
of
WATSON-WILLIAMS
have led the field for 116 years.

Count on our representatives to help you solve your shuttle problems and to fill your shuttle needs.

Southern Representatives:
WATSON and DESMOND, Clifton E. Watson and S. P. V. Desmond, 118½ West Fourth St., Charlotte, N. C., John W. LITTLEFIELD, 810 Woodside Bldg., Greenville, S. C., Walter F. DABOLL, 703 Jefferson Bldg., Greensboro, N. C.
Northern Representative:
G. C. BURBANK, 32 Beaconsfield Road, Worcester, Mass.

WATSON-WILLIAMS MFG. CO. Millbury, Mass.

Whittenton Mfg. Co., Taunton, Mass., is reported to have made an offer to purchase Luther Mfg. Co., Fall River, Mass.

Winnsboro Mills, Winnsboro, S. C., a subsidiary of U. S. Rubber Co., has let contract to J. A. Jones Construction Co., Charlotte, N. C., for 40 dwellings for mill employees.

Wool Mill News

Arlington Mills, Lawrence, Mass., will install new humidifying equipment to replace the present installation at cost of $46,300.

Blackinton Mills, Inc., is dismantling machinery at its North Adams, Mass., plant and moving it into the recently-purchased Conestee mill in Conestee, S. C. When in full operation, the mill will spin, weave, dye, and finish wool goods. Frederick Surr is general manager.

Deering, Milliken & Co. will build a worsted weaving mill with 100,000 sq. ft. of floor space in Johnston, S. C. The mill will contain 144 box-looms, be air-conditioned, and be equipped with fluorescent lighting. Completion is expected in about three months.

Dorman Mills, Inc., Parsons, W. Va., will construct a $60,000, one-story addition. When this is completed, the mill will have 65,000 sq. ft. of floor space.

Dorr Woolen Co., Guild, N. H., has received CPA approval for a $35,000, 142 x 21 ft. addition which will house $150,000 worth of new machinery scheduled for delivery early in 1947. Work will begin immediately.

Faulkner & Colony Mfg. Co., Keene, N. H., has received authority from CPA to construct a $21,752 addition to its plant. The company has $25,000 worth of machinery to be installed.

G. & M. Mfg. Co., Lowell, Mass., recently organized, plans operation of a mill to manufacture woven fabrics. Stewart MacKay, Lowell, is president.

Lorraine Novelty Yarns Co., Norristown, Pa., was recently organized by Arnold Crabtree, formerly with E. & L. Bry, Norristown.

Allen R. Mitchell & Son, which operates Schackamaxon Mills, Philadelphia, Pa., will henceforth be known as Mitchell & Walker. Allen R. Mitchell, Sr., owner and operator for many years, has sold his interest in the business.

Paragon Worsted Co., Providence, R. I., will begin work immediately on a one-story addition.

Peerless Woolen Mills, Rossville, Ga., has begun construction of a $400,000 three-story wool warehouse of fireproof construction adjacent to its plant.

Pola Stout, Inc., Philadelphia, Pa., has acquired a mill in which woolen, worsted, and blended fabrics will be produced. Pola Stout is president, and William F. Watkins is superintendent of production.

Salter Mills, Saugus, Mass., is installing wool scouring and carbonizing equipment.

Saltex Looms, Shelton, Conn., has awarded contract for a 40 x 110 ft., one-story mill to be built at Bridgeport, Conn., to O. F. Burghart, Inc., Bridgeport.

Slater Spinning Co., Pawtucket, R. I., is installing 24 automatic looms and expects soon to be producing men's and women's woolen fabrics.

Strong, Hewat & Co., Inc., Briggsville, North Adams, Mass., has let two more subcontracts on the 165 x 195 ft., two-story mill under construction. Stearns, Perry & Smith, Boston, received the contract for electrical work, and Parks-Cramer Co., Boston, received the contract for air-conditioning. Aberthaw Co., Boston, has general contract.

Sun Textile Co., Woonsocket, R. I., has been chartered to manufacture and process wool, tops, noils, yarns, etc. Incorporators are John R. Higgins, Sidney Silverstein, and Eva Perry.

Thomas Woolen Mills Co., Fabyan, Conn., was recently reorganized and is now known as Thomas Woolen Mills, Inc. Ground has been broken for erection of a two-story mill which will have 24,000 sq. ft. of floor space. When this is completed, the mill will be equipped with the latest carding, spinning, weaving, dyeing, and finishing equipment. Jacques Ciproth is president.

GEARS TO ORDER

Spiral and helical gears; special couplings, bushings and collars; pins, pulleys and rollers. Made to your specifications—*promptly*.

KELLEY GEAR & TOOL CO.
Bristol, Tennessee

NEW
ZEPHYR
"HYDRAXTOR"
the Extractor of the Future

DISTRIBUTORS
WANTED FOR
LAMEPON

The sodium salt of a protein hydrolysate condensed with fatty acid chloride.

A basic surface active agent—combining wetting, detergency, foaming, dispersion, emulsification, non-substantivity, complete lime stability with protective action. Used in all types of Textile Processing.

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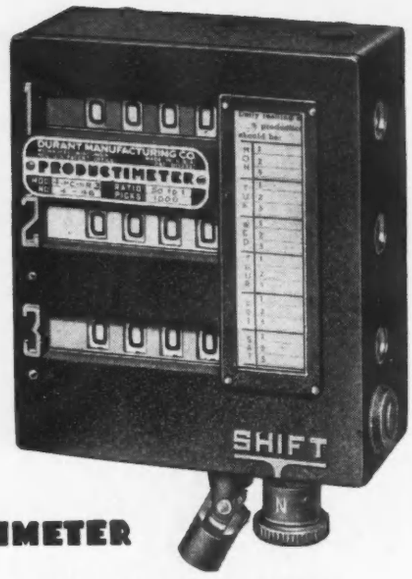

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NEWS ABOUT MILLS

Vermont Textiles, Inc., Montpelier, Vt., has received CPA approval to construct a $45,000 boiler plant.

Wickford Weavers, Inc., North Kingstown, R. I., newly formed wool manufacturing concern, has purchased a 16,432 sq. ft. plot of ground on which stands a 3,150 sq. ft. one story school building. The property will be used as a permanent site for a mill.

Winthrop Mills, Winthrop, Me., has let contract to Howard Jellison, Winthrop, for a $105,000 dye-house addition, and to H. P. Cummings Construction Co., Ware, Mass., for a $65,000 two-story office building. Alonzo J. Harriman, Auburn, Me., is architect.

Worumbo Mfg. Co., Lisbon Falls, Me., has started work on plant alterations and additions to cost $97,583. Included in this project will be installation of two new boilers and construction of four stacks and a 300-ton coal silo.

Rayon & Silk Mills

American Viscose Corp. has approved an appropriation for preparation of the site for its proposed viscose rayon staple fiber plant at Radford, Va. This work will be carried out during the balance of 1946. It is hoped that construction of the plant itself can be started in the spring of 1947. Harry Crewdson will be construction engineer. Initial capacity of the plant will be 55,000,000 lb. per year.

Bruck Mills, Ltd., an affiliate of Bruck Silk Mills, Ltd., Montreal, Que., is establishing mills at Wangaretta, Victoria, in Australia to manufacture synthetic fiber materials.

Carolina Fabrics, Inc., Rocky Mount, N. C., is a newly organized company which will construct a plant to manufacture textile specialties. Principals include Hyman L. Battle, Ronold E. Stevens, Robert D. Womberly, and Henry Gregory, Jr., all of Rocky Mount, and M. E. Crosson of Catasaqua, Pa. Mr. Crosson, formerly manufacturing superintendent of General Ribbon Mills, Catasaqua, will be manager of the new mill.

Q. Cerruti & Son, Union City, N. J., will manufacture fabrics for neckwear and sportswear.

Duplan Corp., Winston-Salem, N. C., has let contract to Fowler-Jones Construction Co., Winston-Salem, for erection of the proposed nylon throwing mill.

E. I. du Pont de Nemours & Co. has received a permit to construct a large addition to its nylon manufacturing plant in Martinsburg, Va.

Easthampton Rubber Thread Co., Easthampton, Mass., has received CPA authorization to build a $75,000 addition.

Esther Mill Co., Shelby, N. C., which recently sold part of its stock to New York interests, has sold the balance to a new company called Esther Mill Corp., which has just been incorporated by Charles I. Dover, J. R. Dover, and T. B. Falls, all of Shelby. The former two were also principal stockholders in the old firm.

Midland Fabrics Corp., New York, N. Y., is completing plans for construction of a $140,000 building in Oxford, N. C., to house a branch plant for the manufacture of upholsteries.

Ottaray Textiles, Inc., Anderson, S. C., has let contract to Daniel Construction Co., Anderson, for a mill addition. Cost, with equipment, $100,000.

Textron, Inc., Suncook, N. H., plans the installation of a complete humidification and evaporative cooling system; cost, $40,500.

H. Warshow & Sons, Inc., New York, N. Y., has purchased plant space from Milton Mfg. Co., Milton, Pa., for use in the manufacture of woven fabrics for the corset, shoe, and bathing suit trades.

Knitting Mill News

Augusta Knitting Corp., Utica, N. Y., has taken additional space on the third floor of the building in which it is now located and has started to expand production facilities. The additional space will be used for knitting and research.

Bangor Mills, Inc., Pen Argyle, Pa., is doubling its knitting capacity by installing new high-speed warp knitting machines, with necessary auxiliary equipment. Finishing capacity is also being doubled through the installation of modern equipment. A building extension to

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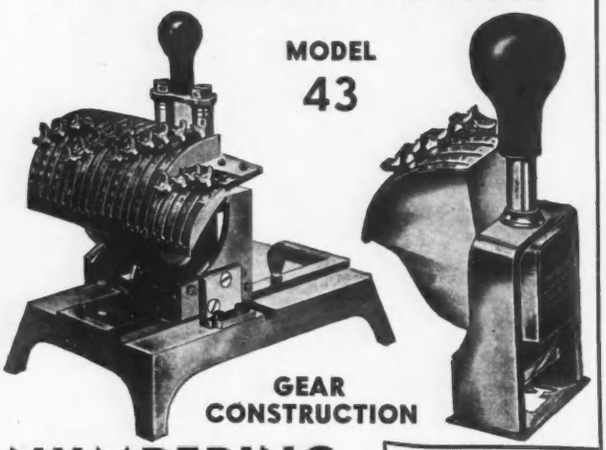
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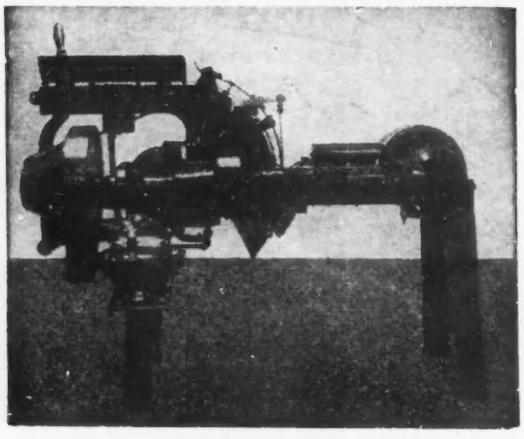
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house the new equipment is under way, and installation will be completed by January, 1947. The entire program will represent an investment of $250,000. As soon as this program is completed, a second expansion will be started for which the company has already purchased land.

Bear Brand Hosiery Co., Chicago, Ill., has awarded contract to Campbell-Lowrie-Lautermilch Corp., Chicago, for erection of a 150 x 200 ft. one-story mill in Paxton, Ill. Cost, about $150,000.

Carver Lace Works, Inc., New York, N. Y., a subsidiary of Native Laces & Textiles, has increased its floor space for lace machinery by 90%. Necessary equipment is expected to be received during the next year.

Douglasville, Ga.—A new hosiery mill will be opened by W. D. Lloyd and T. W. Payne; the former will be president and treasurer, and the latter general manager in charge of operations.

Dover Knitwear, Inc., New York, N. Y., will henceforth be known as Buckland Knitwear, Inc., due to a conflict in trade names. Policy and management remain unchanged.

Gehman Knitting Mill, Bally, Pa., has been purchased by Donold T. Miller, of Glenmor Hosiery Co., and Bernard H. Hyman.

Gould Glove Co., Philadelphia, Pa., has acquired Lewis & Evans Glove Co., Gloversville, N. Y.

Holeproof Hosiery Co., Milwaukee, Wis., is reported to be planning a new mill in Macon, Miss., comprising a main unit and several auxiliary buildings, with boiler plant. Cost, with equipment, estimated at $500,000. Holeproof has also awarded contract to Vining & Kling, Meridian, Miss., for the construction of a $150,000 hosiery mill in Quitman, Ga.

Irving Knitting Mills, Lexington, N. C., has construction under way on an addition which will about double capacity.

Jantzen Knitting Mills, Portland, Ore., has received CPA approval for completion of an addition on which work was recently begun. The project, which will be used in part as a dyehouse, will cost about $300,000 with equipment.

Lee Hosiery Mill, Inc., Chilhowie, Va., has been chartered with J. M. Duncan, Chilhowie, as president.

Lowrance Knitting Mills, Inc., Kernersville, N. C., has begun operations, making children's and misses' anklets. The plant is equipped with 35 knitting machines and 18 looping machines. Frank A. Lowrance is president, treasurer and general manager.

Magnet Mills, Inc., Clinton, Tenn., plans the installation of a new air-conditioning system in main knitting department.

Propper-McCallum Hosiery Co., has begun work on a new $1,000,000 plant in Florence, Mass. Casper Ranger Construction Co., Holyoke, Mass., has the contract. Erection of the building will be completed in about three months.

Puritan Knitting Mills Corp., Altoona, Pa., has acquired a new plant in Altoona, increasing the company's manufacturing space to 140,000 sq. ft. Modern machinery is being installed.

Reading, Pa.—Isadore Cleinfeld, Long Island City, N. Y., has just leased an entire floor in a building in which he will establish a hosiery mill for the manufacture of boys' hosiery.

Roanoke Mill, Inc., Roanoke, Va., has construction in progress on a two-story mill addition which will provide 56,530 sq. ft. of floor space and which is scheduled for completion Sept. 1.

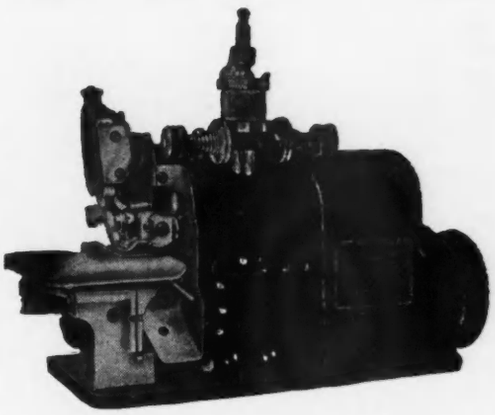
Robot Knitting Mills has been established in Norwalk, Conn., by John Robaczynski.

Rockwell Hosiery Mill, Rockwell, N. C., is completing an expansion program which will more than double production. A new 40 x 100 ft. wing is being constructed, and an 18 x 50 ft. boiler room is being added.

Ruth Hosiery Mill, Durham, N. C., operated by Sarah Hosiery Mills, Mount Airy, S. C., has changed its name to University Hosiery Mills.

Textron, Inc., will establish a warp-knitting plant in West Warwick, R. I., in the building formerly occupied by the Boston Stitcher Co. The building has a total manufacturing space of 78,000 sq. ft.

Van Raalte Co., Inc., New York, N. Y., has let contract to



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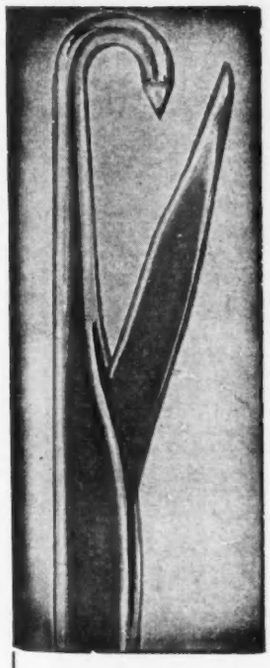
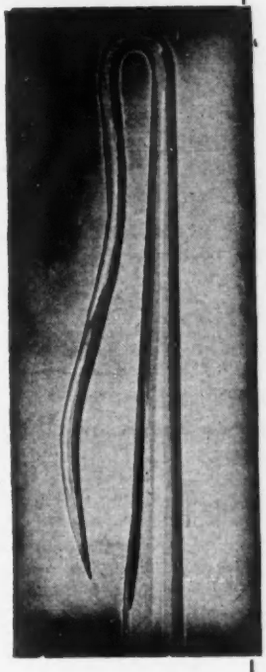


NEEDLES



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CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is versatility . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

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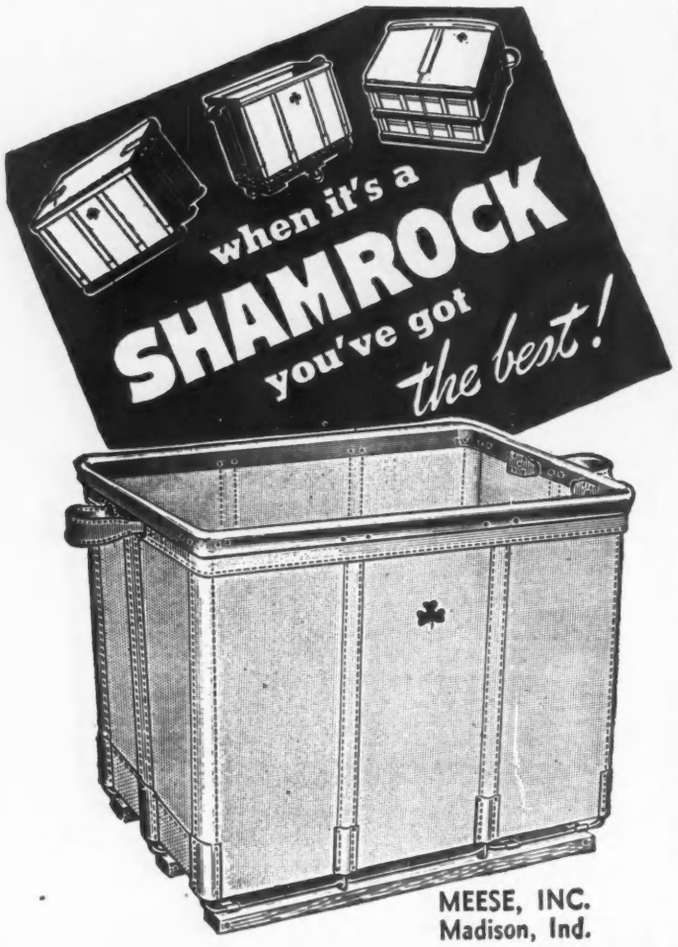

Merchant Construction Co., Asheville, N. C., for a one-story knitting mill in Franklin, N. C. Cost, with equipment, is reported to be about $75,000.

Waldensian Hosiery Mills, Valdese, N. C., will open a branch in the old Armory building in Lenoir, N. C., and is scheduled to begin operation by the end of July. Activity will at first be confined to looping, but other departments may be added.

Wayne Knitting Mills, Fort Wayne, Ind., has purchased all outstanding common stock of Humboldt Full-Fashioned Hosiery Mills, Inc., Humboldt, Tenn. Plans call for installation of latest-type equipment. The purchase is part of a $2,500,000 building and equipment expansion program, which also calls for new machinery in the Fort Wayne and Riverside, N. J., plants. Paul Baker, formerly with Holeproof Hosiery Co., recently joined the company as vice-president in charge of manufacturing in all plants.

West Warwick, R. I.—The entire second floor of Phenix Mills, Inc., has been leased for five years to French-American Export & Import Co., New York. The latter will operate a knitting mill there.

Wilcox Lace Corp., Middletown, Conn., an affiliate of Native Laces & Textiles, has purchased property adjoining its present location to provide additional building space to house lace machinery, which the company expects to receive in the next twelve months.

York Knitting Co., Toronto, Ont., will have controlling interest in a hosiery mill to be set up in Enniskilled, North Ireland. The plant will manufacture hosiery. Most of the equipment will be bought in America.

Dyeing & Finishing Plant News

Adams Piece Dye Works, Inc., Paterson, N. J., has started operations. President and general manager is Raymond R. Adams, formerly president of Blue Ribbon Dye Works. George A. Carelli is vice-president, and Nicholas A. Carelli is secretary.

De Luxe Dye Works, Inc., New York, N. Y., moved on or about July 1 to enlarged quarters at 35th St. and 48th Ave., Long Island City, N. Y., where it will occupy a modern building. Additional equipment, including new preboarding machines, will be installed.

Elm Coated Fabrics Co., New York, N. Y., has purchased the former plant of Air Reduction Sales Corp., in Brooklyn, N. Y., from the War Assets Corp. for $92,200, and will equip it for expansion.

Empire Piece Dyeing & Finishing Co., Paterson, N. J., has a building nearing completion which will add 5,000 sq. ft. of floor space to its 80,000 sq. ft. plant. Vat-dyeing equipment now housed in the present building will be moved into the new structure, and in its place a complete pad steam range will be installed. The new section is expected to be in operation by September.

Queen Dyeing Co., Providence, R. I., has awarded contract to Brien Building Co., Inc., Woonsocket, for extensive alterations and repairs. The project will cost $180,000. A sprinkler system will be installed by Grinnell Corp., Providence. Lockwood Greene Engineers, Inc., Boston, prepared the plans.

Thornton Dye Works, Inc., Cranston, R. I., recently chartered with capital of $50,000, plans operation of a dye and bleach works. Jay E. Rubinow, Manchester, Conn., is principal incorporator.

Woonsocket Dyeing Co., Inc., recently organized, has purchased Woonsocket Dyeing & Bleaching Co., Woonsocket, R. I. Eugene Bonte, president of Riverside Worsted Co., is president of the new firm.

Miscellaneous Mill News

Ludlow Mfg. & Sales Co., Ludlow, Mass., has received CPA approval for erection of a $290,000 steam plant to replace an old plant which had been used to reinforce the hydroelectric system.

Oregon Flax Textiles, Inc., Salem, Ore., will soon have in full operation its recently completed $100,000 plant.

Ramie Mills of Florida, Inc., Zellwood, Fla., a new corporation headed by Richard Whitney, is now constructing a mill for processing ramie fiber.

MILL MEN have found out about PARAMINE. . . . They know that to specify PARAMINE is to assure a highly desirable, wool-like texture for spun rayons, and an extra-mellow softness for all rayons, synthetics and cottons . . . and mill executives are pleased to find that PARAMINE gives this added sales value without increasing and often lowering finishing costs!

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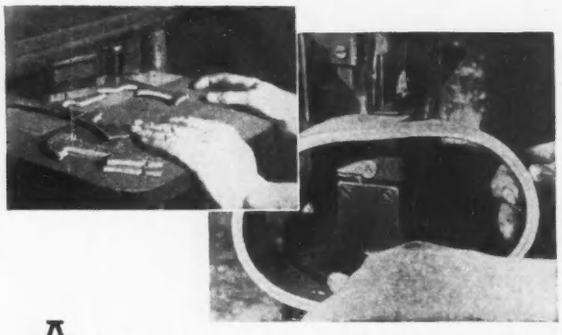

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GREENVILLE, SOUTH CAROLINA

NEWS ABOUT Men

Moses Pendleton recently celebrated the tenth anniversary of his presidency of the American Woolen Co., New York. He joined the company many years ago in the old Riverside Mill in Pawtucket, R. I.

M. M. Clairmont, New York, N. Y., has been elected president and treasurer of Newberry Cotton Mills, Newberry, S. C.

Hugh F. Craig has succeeded the later Robert F. Craig as president of Lola Mills, Inc., Stanley, N. C.

Lawrence G. Weston has been appointed vice-president of Manville Fabrics, Textron subsidiary.

Wm. C. Fitts has been elected vice-president and general manager of Flax Processing & Linen Co., Greystone, R. I. He has been secretary and treasurer.

Wallace B. Phillips has been elected a member of the board of directors of Bruck Silk Mills, Ltd., Montreal, Que.

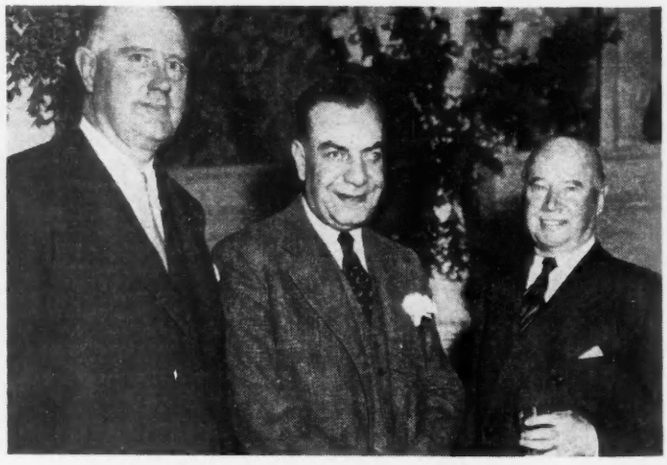
Douglas G. Woolf, formerly editor of TEXTILE WORLD, has purchased the *Lamanda Park Herald,* of Pasadena, Calif., a weekly newspaper which has served its area for over 30 years. He has assumed the duties of editor and publisher. Mr. Woolf was on the staff of TEXTILE WORLD from 1916 to 1943, and chief editor for the last 14 years of that period. He was first vice president of the Textile Research Institute, New York, from 1943 to 1945, when he moved with his family to California. He is planning to devote part of his time to writing on textile subjects.

W. J. Jones, who recently organized Leading Cotton Mills, Cowpens, S. C., has sold his interests to his associates, **Leon Salkind** and **Harold Baume.**

Walter S. Donahue has been elected treasurer of Union Wadding Co., Pawtucket, R. I. He succeeds **Howard N. Manchester,** who resigned as treasurer and manager.

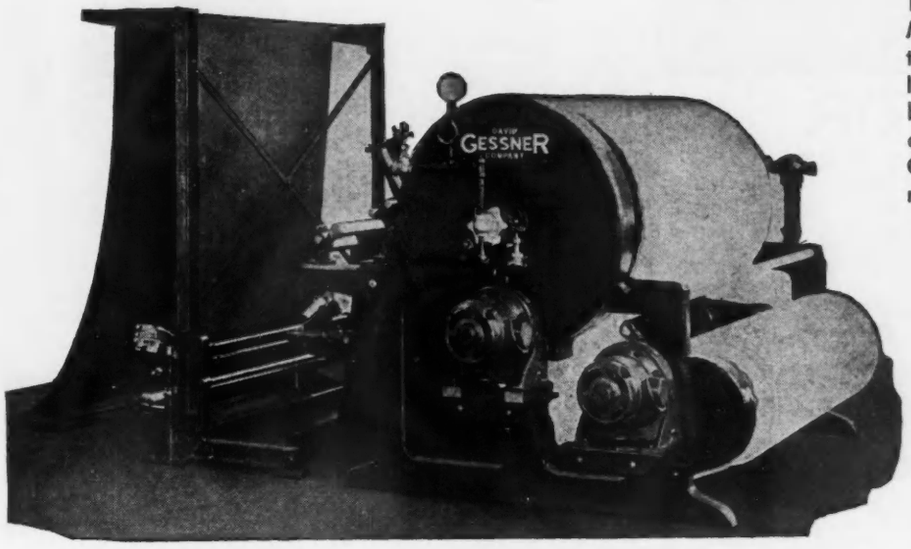
Phil Moran, plant manager for Hudson Piece Dye Works, Paterson, N. J., left by Clipper June 25 for a three-week inspection tour of England's textile districts. He was born in Manchester, England, and has been with the Hudson Dye Works for the last eight years. Previously he was associated with Bradford Dyeing Association.

George Hotte has resigned as technical director of the fine goods division of Wellington Sears Co., Boston, Mass., to join



DR. HAFEZ AFIFI PASHA, (Center) president of the UN Security Council during May of this year, and president of the newly established Egyptian rayon concern, Societe Mist Pour La Rayonne, S.A.E., shown during his recent stay in New York. At left is LUIS DIBOS, Peruvian industrialist and president of Rayon Peruana S.A., and at right is OSCAR VON KOHORN, president of Oscar Kohorn & Co., Ltd., of New York, whose firm is installing and operating rayon plants for the above-mentioned companies.

The New Gessner Open Decating Machine Simplifies Operations and Cuts Costs



The new Gessner Open Decating Machine embodies important new time and money-saving principles. In fact, Gessner Open Decating has become a one man operation in an ever-growing number of mills. Gessner improvements include automatic tension controls for the decating apron, which prevent apron slap even at high speeds and which greatly lengthen the life of the apron. Mechanisms control the firmness of the decating roll without added tension on the apron. Individual motors drive each cylinder. There are no clutches. The Gessner Open Decating Machine shown here is equipped with a platform and guides to guide the cloth as it is loaded into the machine.

DAVID GESSNER CO.

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CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS

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SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John:
Penick and Ford's Starches and Gums for sizing Corduroy warps insure dependable weaving and maximum cutting efficiency. Let's try the type they recommend. Jim

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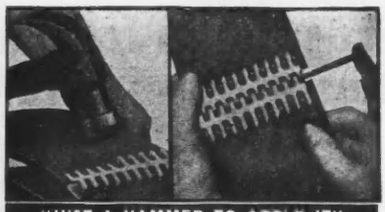

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BELT FASTENERS AND RIP PLATES

For conveyor and elevator belts of all thicknesses, makes a tight butt joint of great strength and durability. Compresses belt ends between toothed cupped plates. Templates and FLEXCO Clips speed application. 6 sizes. Made in steel, "Monel Metal", non-magnetic and abrasion resisting alloys.

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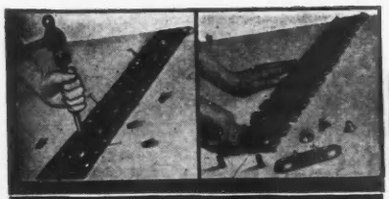

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NEWS ABOUT MEN

A. M. Tenney Associates, Inc., New York, in the technical division. He had been with Wellington Sears since 1938.

Ely R. Callaway, Jr., of La Grange, Ga., is now in charge of the southeastern sales office of Deering, Milliken & Co., Inc., Atlanta, Ga.

C. H. Conner, Jr. won the prize for low net score in the recent golf tournament at Pinehurst, N. C., held by the Carolina Yarn Association. Low gross was won by **J. H. Covington.** The following were the winners in the skeet shoot: Class A, R. J. Fisher, Jr.; Class B, Joe Bollentine; Class C, J. O. Foil.

Dr. G. F. D'Alelio has been named manager of high polymer research for Industrial Rayon Corp. He was a research worker, staff chemist, and director of the plastics laboratories of the General Electric Co. from 1936 to 1943, and more recently was vice president and director of research of the Pro-phy-lac-tic Brush Co.

Hubert D. Kernan, who was formerly vice president of Skenandoa Rayon Corp., Utica, has become associated with the Rayon Producers Group, New York, where he will assist **S. R. Fuller, Jr.**, chairman of the group.

William O. Holmes, formerly of Federal Merchants, has established in the Empire State Building, New York, a sales office for Tula Fabrics Co., sales outlet for Carter Mills, carded-yarn manufacturers, Gastonia and Lincolnton, N. C.

Sam Altshuler, general manager for the last 10 years, has been elected vice president of Harlenn Mills, Inc., Lawrence, Mass., weavers of jacquard fabrics and one of the five mills associated with Native Laces & Textiles, Inc.

Nelson N. Baum has joined the Midland Fabrics Corp., New York. He had been associated with Marvlo Fabrics.

Fred C. Schlemmer, project manager TVA'S Fontana Dam, will join Peerless Woolen Mills, Rossville, Ga., in an executive capacity.

Everett C. Drake has been appointed assistant to the vice-president of M. Lowenstein & Sons, Huntsville, Ala.

FRANCIS H. ELDRIDGE, who has been elected president of F. C. Huyck & Sons, Albany, N. Y., to succeed the late Woolsey W. Weed, as previously reported. Mr. Eldridge joined the company about 17 years ago and since 1938 has been vice president and general manager. He is a grandson of the founder of the business.

Walter B. Kuffler has been elected vice-president of H. & F. Binch, Inc., Glens Falls, N. Y.

Samuel Oved of Sedas Roxy, S. A., Mexico City, is in New York to buy textile mill equipment. He is staying for a time at the Plaza Hotel.

George E. Spofford, Jr., is resigning as general manager of the Manchester, N. H., mill of Chicopee Mfg. Co. to join Union Wadding Co., Pawtucket, R. I., as general manager.

Dr. E. Lessig has been appointed manager of textile control in the tire division of B. F. Goodrich Co., Akron, Ohio.

Marshall Rhyne is now general manager of Rhyne Mfg. Co., Mariposa, S. C., formerly Alba Twine Mills.

D. Harry Angney has resigned as research economist for the Rhode Island Textile Association to join Coventry Co., Coventry, R. I.

T. L. Arnett, superintendent of the Valway plant of Callaway Mills, La Grange, Ga., has been made general superintendent of both the Valway and Dye plants. **S. P. Rice,** recently out of the Army, succeeds him as superintendent of the Valway plant. **J. M. Youngblood** continues as superintendent of the Dye plant.

C. B. Ordway has joined the quality control department of Burlington Mills Corp., Greens-

See Also
Textile World
Year Book and Catalog

Perfect Butted Seams for Faster and Smoother Finishing

The Rayer & Lincoln Rotary Sewing and Marking Machine, fitted with the latest *Dinsmore Improved Positive Stripping Attachment* and showing the application of the *Merrow Butted Seaming Head.* Sews a strong, flat, butted seam, trims the goods evenly with a narrow margin and automatically marks each piece as sewing is done. This machine will save its cost each year—you need it for modern, low-cost finishing. The Merrow Butted Seaming Head can be applied to your present machine—write for estimate of cost.

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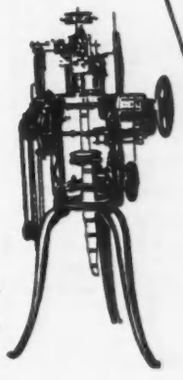
CIRCULAR KNITTING MACHINES



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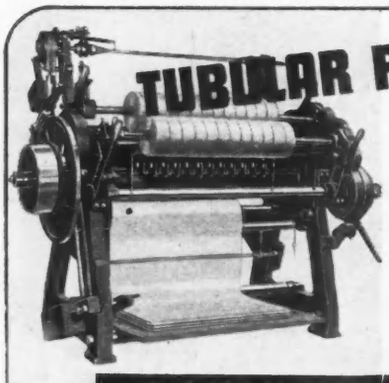

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NEWS ABOUT MEN

boro, N. C., where he will work in research and development. He was formerly technical director in the Charlotte, N. C., laboratory of American Aniline Products, Inc.

LeRoy S. Converse is the new director of the standards department of American Viscose Corp. at Marcus Hook, Pa., succeeding the retired **Dr. Frederick Bonnet,** who will continue as adviser to **Wm. C. Appleton,** president of the company.

Harry E. Cooper, superintendent of the Providence, R. I., plant of U. S. Rubber Co., has been appointed manager of the company's Lastex yarn and thread division to succeed **Harlow W. Waite,** who is retiring.

E. C. Sears has succeeded the late M. E. Woodrow as manager of Corsicana Cotton Mills, Corsicana, Texas.

H. K. Gregory has been elected assistant treasurer of Skenandoa Rayon Corp., Utica, N. Y. The post is newly created.

Donald E. Pearson has been appointed to supervise the research and quality control laboratory of Concordia-Gallia Corp., New York, which is part of the Technical Division headed by Charles H. Ochsner.

Sidney Springer, who has been in charge of the Rayon Processing Division of the Rock Hill Printing & Finishing Co., Rock Hill, S. C., has resigned to go into business in Los Angeles, Calif., with headquarters at 6000 Enest Ave.

A. Carl Martin, Jr. is now associated with the Celanese Corp. of America at its Charlotte, N. C., office in the Liberty Life Bldg.

William E. Perry, comptroller of Scranton Lace Co., Scranton, Pa., was elected vice president of the National Association of Cost Accountants, June 19.

Franklin R. Ehmann, controller of the Hellwig Dyeing Corp., Philadelphia, has been elected director of the Philadelphia Control of Controllers Institute of America for the fiscal year 1946-1947.

Dr. Fred C. Koch, director of biochemical research at Armour Laboratories and former head of the Department of Biochemistry in University of Chicago, has been appointed general chairman of the 110th national meeting of the American Chemical Society, which will be held in Chicago Sept. 9 to 13. **A. E. Schneider** of the Armour Laboratories has been named general assistant to Dr. Koch.

Dr. Edgar H. Booth, chairman of the International Wool Secretariat, has arrived in Paris to discuss with French wool manufacturers, brokers, and designers, the organization of a consultative committee to cooperate with the Secretariat in promoting greater use of wool in Continental markets.

Frederick S. Blackall, Jr., president and treasurer, Taft-Pierce Mfg. Co., Woonsocket, R. I.; president of the New England Council, and of the American Wringer Co., Woonsocket, has been elected a member of the corporation of the Massachusetts Institute of Technology for a 5-year term.

Robert Ray, recently discharged from the Navy, has become general overseer of spinning, spooling, and warping at the Oakland unit of Kendall Co., Newberry, S. C.

Ernest O. Defore has resigned as superintendent of the Calumet plant of Callaway Mills to become manager of Excelsior Mills, Clemson, S. C. He has been succeeded at the Calumet plant by **John C. Driver,** formerly assistant superintendent of the company's Unity Spinning plant. Mr. Driver in turn has been succeeded by **J. G. Maddox,** formerly assistant superintendent of the Oakleaf plant. Mr. Maddox old position has been taken over by **Marvin L. Lester,** formerly mill maintenance engineer for the USEO division. **James Hammett,** formerly shop foreman, has been named mill maintenance engineer of the USEO division.

William J. Cain has been promoted from overseer of dressing to night superintendent at Neponset Woolen Mills, Canton, Mass. His former position was taken over by **Nelson Pleau.**

M. A. Enloe has become superintendent of Worth Spinning Co., Stony Point, N. C. He was formerly overseer of carding at the No. 3 unit of Highland Park Mfg. Co., Charlotte, N. C., where he has been succeeded by **B. R. Adams.**

Ralph Donnelly has become superintendent of the yarn di-

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Yarns

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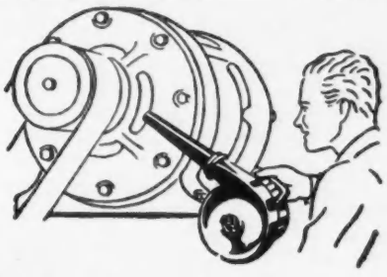

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For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines: Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

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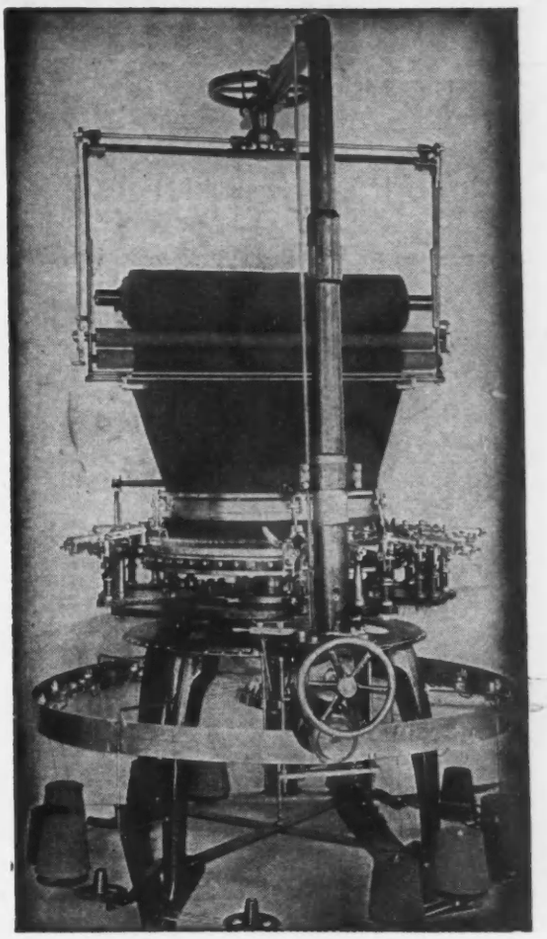

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3. **Produces a superior quality of knitted fabric, getting the most out of every grade and size of yarn.**
4. **Basis of all statements is on actual mill performance and production on S-1 models now installed.**

All reasons that will save you money! The new S-1 single head spring needle machine is especially designed for overcoating materials. At the same time, any fabric can be knit on it that is knit on the older type spring needle table. Production is approximately 100 yards per 8 hour day, using 6 feeds.

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For over 45 years, Cloverleaf Bobbins have been built to meet, with scientific exactness, the varying conditions and processes of individual manufacturers.
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GREENVILLE, S.C. FALL RIVER, MASS.

vision of the Norwich, Conn., mill of American Woolen Co.

Clarence White has become overseer of carding at Gibson Woolen Mills, Tilton, N. H.

Arthur Minkoff, formerly purchasing agent for Martex Print & Dye Works, Clifton, N. J., is now manager of Modern Textile Print Works.

Clarence Signor has succeeded Ernest Bower as dyer at James Worsted Mills, Jamestown, N. Y.

Frank A. Decker, Jr., recently out of the Army, has joined Acme Finishing Co., Pawtucket, R. I., as chief chemist.

Leon Gagne, formerly finisher at Faith Mills, Averill Park, N. Y., is now finisher at Utica Mohawk Knitting Co., Clayville, N. Y. He has been succeeded at Faith Mills by **Hugh Henderson.**

J. L. Quellette, formerly with Rockford Mitten & Hosiery Co., Rockford, Ill., is now overseer of carding at Sebago Woolen Co., Bridgeton, Me. Fred Gardner, formerly of Greenfield Carpet Co., Manchester, N. H., is overseer of spinning.

John C. Wallis has been appointed administrative assistant to **James A. King**, vice president in charge of sales for Textron, Inc., New York.

Arthur Newman joined Manville Fabrics on July 1 to assist Al Bleiman, vice president, in the distribution of retail piece goods. Mr. Newman recently was connected with Marvlo Fabrics.

Harry De Muinck, of Amsterdam, Holland, has been visiting this country to place orders for textile machinery and textiles. While in Atlanta he made his headquarters with **Paul Elsas** of American Mills Co.

George W. Murphy, Jr. has resigned as supperintendent of S. A. Fabrica Argentina de Alpargatas, Buenos Aires, to begin work in a similar capacity at Sudamtex S. A. Textil Sudamericana, of the same city.

Obituary

Nathaniel Stevens, 88, chairman of the board of M. T. Stevens & Sons Co., and a member of the firm of J. P. Stevens & Co., New York, died at his home in North Andover, Mass., on June 16. He entered the woolen manufacturing field 72 years ago. He became a director in 1886 of the concern founded by his grandfather in 1813, and president in 1900. He founded the New York merchandising firm with his father, two brothers and a cousin in 1899. The mills headed by Mr. Stevens included the Stevens and Osgood, North Andover; Marland, Andover; Pentucket, Haverhill; Stowe, Stowe, Mass.; Franklin (N. H.); Peacedale (R. I.); and Hockanum, Rockville, Conn. He had held many directorates and offices, including the vice-presidency of the National Association of Wool Manufacturers.

Edward March Wheelwright, 55, retired cotton broker, who had been in business at Boston from 1915 until his retirement in 1936, died in Medfield, Mass., June 16.

Harry M. Specht, formerly president of Glenside Woolen Mills, Skaneateles, N. Y., died recently. He organized Glenside Woolen Mills in 1917 and dissolved it in 1940.

Fred O. Williams, president of Seamless Rubber Co., New Haven, Conn., from 1917 to 1932, died June 16 at Kent, Conn.

Albert Clayburgh, 84, president of Albert D. Smith & Co., Inc. and Smith Textiles Corp., New York, died recently. Mr. Clayburgh had been associated with the Albert D. Smith organization for 65 years and had been president for 30.

James Eastwood, 78, president of Benjamin Eastwood Co., Paterson, N. J., died recently.

Clarence M. Shaner, 76, Cedarville, Pa., underwear manufacturer, died May 30 in Pottstown, Pa.

Edward A. Kennedy, Mt. Vernon, N. Y., a former president of the Kennedy Knitting Co., Inc., of Cohoes, N. Y., died recently.

John Bleakie, 71, Sabattus, Me., formerly president of the Webster Woolen Co., died May 23.

James Westwood Tolar, 44,

Speed Production

. . . WITH AN

ANSUL *Portable* SO_2 ANTI-CHLOR SYSTEM

- EASY TO SET UP
- MORE ECONOMICAL TO USE
- NO HAZARDS—NO DANGER TO GOODS
- REQUIRES MINIMUM ATTENTION
- METERED DISCHARGE OF SO_2 PROVIDES ABSOLUTE CONTROL OF CONCENTRATION

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Finer Cloth BRINGS *Faster Sales!*

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➡ STRONGER YARNS
Superior lubrication.
Less fibre breakage.

➡ SMOOTHER YARNS
Retain moisture control longer.
Aids artificial control.
Improve spinning.

➡ BETTER LUBRICATION
More even distribution.
Thorough penetration.

➡ FREE SCOURING
Decreased oxidation.
Less alkali increases tensile strength.

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for many years secretary-treasurer of the Tolar, Hart & Holt Mills, Fayetteville, N. C., and later with the Stonewall Cotton Mills, Stonewall, Miss., died recently.

Joseph C. Rahn, owner of the Westfield Knitting Mills in Manchester, N. H., for the last six years, died June 16. He was a native of Utica, N. Y.

T. Y. Williams, 80, vice president the Springs Cotton Mills, Lancaster, S. C., died June 5.

Max Caplin, 45, at one time factory manager for the old Friedman-Blau-Farber Co., Cleveland, Ohio, died recently.

Edgar L. Feininger, 56, assistant general manager of the Chemical Department of General Electric Co., Pittsfield, Mass., died recently.

Rudolph Louis Suhl, 64, manager of the nickel sales department of International Nickel Co., New York, died June 10. He had been associated with International Nickel for over 43 years and at the time of his death was seventh in seniority of the U. S. Chapter of that company's Quarter Century Club.

James F. Connors, Sr., of Central Falls, R. I., died June 15. For the last 25 years, Mr. Connors had been a shipping clerk at the Glenlyon Print Works, Phillipsdale, R. I.

Leroy Springs, II, 21, only son of Col. Elliott Springs, president of Springs Cotton Mills, died in an airplane accident, May 12, near Lancaster, S. C.

Joseph N. Patnode, office manager and purchasing agent for Chicopee Mfg. Co., Chicopee, Mass., for the last 28 years, died May 27.

George A. Moran, 71, formerly of the Application Laboratory of Calco Chemical Div., died June 4 at Bound Brook, N. J. He had served as chief chemist in the Pacific mills in Lawrence, Mass., before going to Calco.

Carl L. Stronach, treasurer and controller of Worumbo Mfg. Co., Lisbon Falls, Me. for several years, died in Yonkers, N. Y., recently.

George F. Allen, executive engineer for the Fulton Bag & Cotton Mills, Atlanta, Ga., died recently.

Sir Samuel Agar Salvage, 69, dean of the United States rayon industry and a founder of what is now the American Viscose Corp., largest American rayon producer, died at his home on Fishers Island, N. Y., on July 10. Sir Samuel, born in Great Britain in 1876, came to this country in 1893. By 1910 he was representing British yarn firms in this country. In that year he obtained the agency for Samuel Courtauld Co., Ltd., British producers of "artificial silk." Soon thereafter he, in conjunction with Courtaulds, set up the American Viscose Co. with a plant at Marcus Hook, Pa. He was president of that company from 1916 to 1932 and chairman from 1932 to 1939, when he retired to the status of a board member and consultant. He was honorary chairman of the British War Relief Society in 1941 and was knighted in 1942 for his services to the common interests of Great Britain and the United States. It is said that he was the holder of the original rayon patent issued in the United States, and was for some years head of the Rayon Yarn Producers Group.

John F. X. Murray, 76, superintendent of Warren Textile Machine Co., Warren, R. I., died June 16, at his home in Fall River, Mass.

Charles G. Parks, 60, vice president of American Linen Supply Co., Chicago, died recently.

Charles Weigandt, 65, retired head of Milwaukee Wool Carding Mills, Milwaukee, Wis., died recently.

Sol E. Rains, 75, founder and board chairman of S. E. Rains Handkerchief Co., died June 16 in New York.

Max Wilner, 69, who has been head of Henry Glass & Co., Inc., New York, since 1916, died recently.

Frank R. Fritz, 77, assistant treasurer and cotton buyer for Nashua Mfg. Co., died recently at his home in Brookline, Mass. He had been associated with Nashua for nearly 59 years and was considered as the dean of cotton buyers.

J. B. Parker, 62, superintendent of the Moultrie Cotton Mills, Moultrie, Ga., died recently.

RAPIDASE

for de-sizing cottons, rayons and mixed goods

•

Assures rapid, dependable de-sizing.

•

Our technical staff always at your service.

•

WALLERSTEIN COMPANY, INC.
180 MADISON AVENUE • NEW YORK 16

VICTOR MILL STARCH

Always A Winner!

★ Penetrates Thoroughly

★ Dependable

★ Carries Weight Into the Fabric

★ Always Uniform

★ Boils Thin

The Weaver's Friend

Distributed by

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THE KEEVER STARCH COMPANY
COLUMBUS 15, OHIO

STANDARD SILICATES

ALKALI

DEPENDABLE-UNIFORM

Combining high soil-suspending power with controlled alkalinity over a wide range, STANDARD TEXTILE SILICATES are made in grades to meet your particular needs *exactly!*

DIAMOND ALKALI COMPANY
STANDARD SILICATE DIVISION
GENERAL OFFICES: PITTSBURGH, PENNSYLVANIA
Plants at CINCINNATI · JERSEY CITY · LOCKPORT, N.Y. · MARSEILLES
DALLAS, TEXAS

SEARCHLIGHT SECTION

(Classified Advertising)

EMPLOYMENT : BUSINESS : "OPPORTUNITIES" : EQUIPMENT : (Used or Resale)

UNDISPLAYED ——RATES—— DISPLAYED

10 CENTS A WORD. MINIMUM CHARGE $2.00.
Positions Wanted (full or part time salaried employment only, ½ the above rates payable in advance.
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An advertising inch is measured ⅞" vertically on one column, 3 columns—30 inches—to a page.

T.W.

WANTED

WEAVING MILL SUPERINTENDENT

Must be experienced in running of synthetic yarns and in all branches of mill management. Applicants should state age, education, and experience. Liberal compensation and bonus. All replies confidential.

P-638, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Young Man for

Assistant Superintendent

Must be Textile School Graduate with practical experience in Scouring, Carding, Combing, Drawing, Spinning (Bradford System). Give full particulars in first letter. Reply

P-733, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

EXPERIENCED FOREMAN

For Scouring, Carding, Combing Departments. Give full particulars listing last 10 years' experience in first letter. Reply

P-731, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

EXPERIENCED FOREMAN

For drawing and spinning (Bradford System) ring and cap spinning. Give full particulars listing last 10 years experience in first letter. Reply

P-732, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Industrial Engineer

Specialising in machine layouts, industrial administration, control methods, and designing of forms preferably with experience in spinning and weaving mills. Ability to handle people and negotiate with executives. Willing to travel. Good appearance. Please, write fully giving experience, background, references, and salary requirements.

P-745, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Knitting Machine fixer with latch needle experience and knowledge of Scott & Williams, Brinton & Wildman Machines. Wanted by large upstate New York Underwear Manufacturer. State experience. All correspondence confidential.

Write P-685, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Card Room Overseer

for carded yarn mill. Experience and good references required. Good pay and opportunities.

P-727, Textile World
330 West 42nd St., New York 18, N. Y.

POSITIONS VACANT

FIRST CLASS Experienced dyer wanted: Prefer man with experience on wool, cotton, and rayon, both in stock and piece dyeing. Franklin Process Stainless Steel stock dyeing machines and all modern equipment throughout plant. Excellent working conditions, good salary, will pay moving expenses. An unusual position for the right man. Must have good references as to ability and character. Write full details as to education, ability and previous employment. Midwestern mill. P-708, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

WANTED: MIDWEST textile factory needs young man with knowledge of wool or cotton machinery and weaving, to develop into operating assistant to president. P-750, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

WANTED: DYER for eastern Pennsylvania plant. Experience in cotton and rayon knitted fabrics. Prefer textile engineer. P-751, Textile World, 330 W. 42nd St., New York 18, N. Y.

SCOTT & WILLIAMS Rib Mechanic thoroughly experienced on cotton underwear fabrics. Will pay $7500.00 yearly to right party. Write stating full particulars. P-752, Textile World, 330 W. 42nd St., New York 18, N. Y.

SUPERINTENDENT: WANTED for weaving mill in Philadelphia making women's wear fancy woolens and worsteds. State experience in full, age, and salary expected. P-753, Textile World, 330 W. 42nd St., New York 18, N. W.

TEXTILE MILLWRIGHT Wanted. Experienced man. Salter Mills, 180 Central Street, Saugus, Mass. Saugus 1244.

WANTED: TEXTILE Chemist for new textile plant in North Carolina. Young graduate chemist preferred. Needed for control of sizes, oils, tints, research. Good future. Write P-754, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED: WEAVE Room Foreman for night shift in manufacturing plant in Virginia. Permanent position and excellent opportunity for advancement. Send full particulars to P-755, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED: THROWSTER with experience in throwing silk, rayon and nylon in throwing plant located in Virginia. Send full information to P-756, Textile World, 330 W. 42nd St., New York 18, N. Y.

MASTER MECHANIC: small textile mill New York City who can take care of repairs, setting up machinery, understands dyeing and finishing cotton piece goods, burlap, buckram. Steady position. State age, qualifications, salary wanted. P-757, Textile World, 330 W. 42nd St., New York 18, N. Y.

WOOL SCOURING Foreman Wanted. Young man for plant in New England. Successful applicant must have expert knowledge of wool scouring, grease extraction, and able to take care of shift. State particulars of experience, age, etc., to P-758, Textile World, 330 W. 42nd St., New York 18, N. Y.

GOOD POSITION for fixer thoroughly familiar with 400 needle Scott and Williams machine. P-759, Textile World, 330 W. 42nd St., New York 18, N. Y.

THROWING PLANT: Manager fully familiar with all operations throwing silk, rayon, nylon for new plant to start operation in 1947. Excellent opportunity for right man. State full particulars. P-760, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED: Young textile or mechanical engineer, highly educated and experienced, capable of becoming chief engineer and general superintendent of textile bag plant New Orleans, Savannah and Houston. One familiar with paper bag manufacture preferred. State age, salary, experience, references, and education received. P. O. Box 690, New Orleans 7, Louisiana.

Additional Employment Advertising on pages 275 & 276

THERE ARE MANY ATTRACTIVE OPENINGS IN MILLS

In all sections of the United States and Canada. If you are seeking employment, write us fully regarding your experience and position desired; we will inform you of positions now open in your line of work.

CHARLES P. RAYMOND SERVICE, Inc.
294 WASHINGTON STREET BOSTON 8, MASS.
Over 45 years' confidential employment service for men seeking positions and employers seeking men.

PERSONNEL MANAGER

9 years in personnel work; also experience in training, sales and office management.

CARTER W. FRIEND
2416 Cameron Mills Road,
Alexandria, Virginia

(Continued from opposite page)

POSITIONS WANTED

THROWSTER: Nylon, silk rayon specialist on nylon hosiery tram. Age 38, 15 years experience, at present employed with large hosiery mill, supt. of throwing plant, experienced on all makes of throwing machinery. Desires change in locality. PW-673, Textile World, 330 W. 42nd St., New York 18, N. Y.

WEAVING EXECUTIVE: Experienced on plain and fancy yarn, piece dyed goods, in silk, rayon, nylon, cotton, mohair and blended yarns on broad goods and pile fabrics, expert knowledge of automatic looms, wants steady position with reliable firm. PW-529, Textile World, 330 W. 42nd St., New York 18, N. Y.

OVERSEER OR Head fixer of knitting room. 23 years experience, 8 years mechanical development in large textile mill. Thoroughly familiar with all equipment of hosiery, underwear, knitting and sewing machines. PW-761, Textile World, 330 W. 42nd St., New York 18, N. Y.

TEXTILE INSTITUTE Graduate, 25 years old, with some woolen experience, 2 years with Q.M. Desire permanent position with possibilities for future. PW-762, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

TEXTILE MAN: Eight years experience, covering and cutting-up fields. Desires opportunity with organization that can utilize responsible person. Converter dyer or mill. Production or sales. S. Leyton, 728 W. 181 St., N. Y. 33, N. Y.

AVAILABLE AT Once: Overseer of Carding & Spinning also former yarn supt. woolen. PW-765, Textile World, 330 W. 42nd St., New York 18, N. Y.

INDUSTRIAL RELATIONS: Personnel Director for company employing 600, with experience in heavy and light, large and small industry and excellent previous general business background in distributive trades, seeks opportunity to enlarge scope of contribution to sound labor-management relations. Age 36, married, 2 dependents, 4 years military service concluded as Lt. Comdr. USNR. PW-764, Textile World, 330 W. 42nd St., New York 18, N. Y.

SILK AND Rayon fabric expert. Practical mill man, with 20 years experience in fabric analysis, styling, cost calculation, mill supervision and converting seeks connection with manufacturer or converter. PW-763, Textile World, 330 W. 42nd St., New York 18, N. Y.

SELLING OPPORTUNITY WANTED

LONDON TEXTILE Agents, well connected with export markets, desire to represent American rayon piece-goods manufacturers on commission basis. Write stating terms and price of merchandise produced to Box 237, Scripps, South Molton-Stret, London.

BUSINESS OPPORTUNITY

LARGE TEXTILE Bag Company long established, ample capital, interested acquiring outright or purchasing interest in smaller well established modern bag factories throughout united States, Canada, Mexico, Central America, West Indies. Give full information; everything confidential. P.O. Box 690, New Orleans 7, La.

CONTRACT WORK

GIRDLE KNITTING mill wishes contract work on one or two way stretch. CW-631, Textile World, 330 W. 42nd St., New York 18, N. Y.

CHINA

Leading long established Chinese concern with branches all over South Asia desires exclusive agencies of A-1 Manufacturers. Excellent references.

RA-747, Textile World
330 West 42nd St., New York 18, N. Y.

REPRESENTATIVE IN MEXICO

Well introduced, with first class references, specialized in textile machinery and spare parts, seeks new agencies. Manufacturers may kindly address their answers to

APARTADO 8607, MEXICO CITY

WANTED

CONTACT
WITH SPINNING MILL

by long and well established domestic and export distributor of top grade spun rayon, spun acetate and blend yarns. Can purchase share in mill or finance operation, if suitable arrangements can be made for handling all or share of production.

References and banking connections on request.

BO-686 Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Mill owners who are looking forward to 1947 and creating future business for cotton and wool piece-goods. Representative export and import firm making extensive South American trip in fall will personally introduce your fabrics. We are also interested in representing small textile machinery and accessory manufacturers; manufacturers of chemicals for textile industry; and large dealers in used textile machinery; will also execute commissions. Write

RA-746, Textile World
330 West 42nd St., New York 18, N. Y.

SOUTH AFRICA

J. EULE & COMPANY.
P. O. Box 9115, Johannesburg.

Excellent trade connections, seek sole representation from leading manufacturers and exporters of textiles of every description, woolen, cotton and rayon piece goods, underwear, furnishing materials, knitwear, fancy goods, hosiery, hardware, tap and electrical goods.

BANKERS: Barclays Bank (D.C. & O.), Joubert Street Branch Johannesburg.

PROFESSIONAL SERVICES

LANCASTER, ALLWINE & ROMMEL
Registered Patent Attorneys
Suite 448, 815-15th St., N.W. Washington 5, D. C.
U. S. and Foreign Patents Secured.
Trade-marks and Copyrights Registered.
Searches made to determine Patentability and Validity.
Patent, Trade-mark and Unfair Competition Causes.

MODERN ENGINEERING CORPORATION
Consulting Engineers
Industrial Power Surveys—Electric, Steam, Water, Air Layouts—Heating & Ventilating—Special Electric Circuits—Plant Modernization—Alterations—Power Surveys—Investigations & Reports.
Inquiries Invited
154 Nassau St., New York 7, N. Y.

MAKE READY
for
EXPORT

Leading French representation concern, specializing in Textiles wishes to contact manufacturers of all classes of yarns and textile piece goods and organize export to WESTERN EUROPEAN and AFRICAN markets.

Manager to visit US shortly

UNION EXPORT
Tronchet Building
11 Rue Tronchet, Paris 8e

THERMO-DYNAMICS, INC.
Plant Modernization
Industrial Heating, Drying,
Ventilating and Baking Equipment.
Designing, Engineering, Installation & Supervision.
Your Inquiries Solicited
110 E. 42nd St., New York 17, N. Y. LE. 2-1270

WATSON and HART
Engineers
Industrial Plants, Foundations and Soil Studies, Mechanical and Electrical Installations, Overhead and Underground Electrical Distribution, Water Works and Sewerage.
Designs, Reports, and Appraisals.
216 W. Market St. Greensboro, N. C.

SEARCHLIGHT SECTION

SELLING COTTON FROM GIN TO MILL

ATTENTION! Cotton mill owners—investigate the advantages of buying cotton direct, through your own representative.

NO RECONCENTRATION COSTS

To one or two mills who desire a direct cotton buying connection I offer my Central Georgia location with direct contacts in Texas and Oklahoma.

Write for my references as a Cotton Merchant.

A. C. SCARBORO
26 years marketing cotton
DUBLIN, GEORGIA

WANTED

Automatic Looms

• For commission weaving on colored cotton fabric • steady yarn supply assured • reply confidential

CW-646, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

DUBIED, SEIFERT & DONNER and GROSSER WIDENING MACHINES

6, 7 and 8 gauge.

Write to

W-730, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

COMMISSION WARPING

On Rayon and Cotton Tubes and Cones.

ARROW ELASTIC COMPANY, INC.
48 Hampden Street Springfield, Mass.

WANTED

FIBRE HEAD SPOOLS, BOBBINS, QUILLS AND BEAMS

Send us complete information and samples of your surplus lots. Highest prices paid for desirable lots. Also interested in textile machinery and parts.

PENNSYLVANIA SPOOL AND EQUIPMENT CO.
530 North Fulton St., Allentown, Penna.
Phone 4301 P. O. Box 1235

WANTED

Surplus

Chemicals, Dyes, Gums, Oils, Waxes, Greases, Pigments, Residues, By-Products, Wastes

W-270, Textile World
330 West 42nd St., New York 18, N. Y.

DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.

NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston, Mass.

WANTED

2—2 Spindle Gill Boxes 14 x 9
2—14 x 9—Drawing Frames (For Weigh Box)
2—14 x 8—Finishers 6-8 Spindle Boxes
4—8 x 4 Roving Frames.

Will Buy Part of Above Machinery or All
Willing to pay Good Prices

Tainy Spinning Co.
1398 Adams Av., Philadelphia 24, Pa.

SARDA & QUESADA

Rincon 454—Montevideo—Uruguay

Well established Uruguayan Firm desirous of representing Manufacturers or Representatives of Factories of Cotton material, silks and all classes of cloths for Ladies' and Gent's wear.

We can supply carded fabrics also carded knitting wools in crude and dyed.

WANTED

YARNS—For Cash

All types—Cotton, Rayon, Acetate. Natural, Tinted or Dyed.

W-664, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Any color, new or garnetted rayon or wool & rayon blends on cones *Size 868*, knitting twist. Odd lots acceptable. Contact

LANNOM MANUFACTURING CO.
Tullahoma, Tennessee

YARNS WANTED

Wanted to purchase surplus yarns of all types — cotton, rayon, acetate, nylon, silk, wool, spuns, and blends.

W-474, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED TO BUY

Monel Metal or Stainless steel piece DYE KETTLE for woolen goods.

W-748, Textile World
330 West 42nd St., New York 18, N. Y.

COTTON PLIED YARNS

Available to mill owning and operating broad looms manufacturing drapery and upholstery fabrics. Attractive method of operation will be arranged.

BO-728, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED TO BUY

SILK MILL

40 to 60 C. & K. or Drapper Dobbies 52" to 56" reed space. Apply

W-744, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

3 MERROW SEWING MACHINES 60D 3B Single Thread

NEWBERRY TEXTILE MILLS, INC.
Newberry, South Carolina

YOUR ASSETS and CAPITAL STOCK are WORTH MORE NOW
We are willing to

PAY YOU CASH

For Your

- INDUSTRIAL PLANTS
- MFG. DIVISIONS or UNITS

We are principals acting in our own behalf. All transactions held in strictest confidence. Personnel retained wherever possible.
Address: Box 1222 147 W. 42 St., New York 18, N. Y.

WANTED urgently

1 set WOOLEN CARDS (iron)

48 or 60" w/tape condenser also needed 6 condensers with 8 aprons-96 or 120 ends. Offers by cable to

V. TORRE
Coatepec 40, Mexico D.F.

WANTED TO BUY

QUETCH or Starch Padder or similar machine 2-3 rubber covered rolls, width 72" or wider. Also set of 5-10 DRYING CANS, face 75" or wider.

W-743, Textile World
330 West 42nd St., New York 18, N. Y.

WILL TRADE

A Prince Smith Double Head Can Gill Box for a 12 Spindle Draw Box to Take 6" x 12" Bobbins.

WT-741, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED FOR EXPORT

WOOL & COTTON MILL MACHINERY & EQUIPMENT

New or Rebuilt For Complete Plant Installations

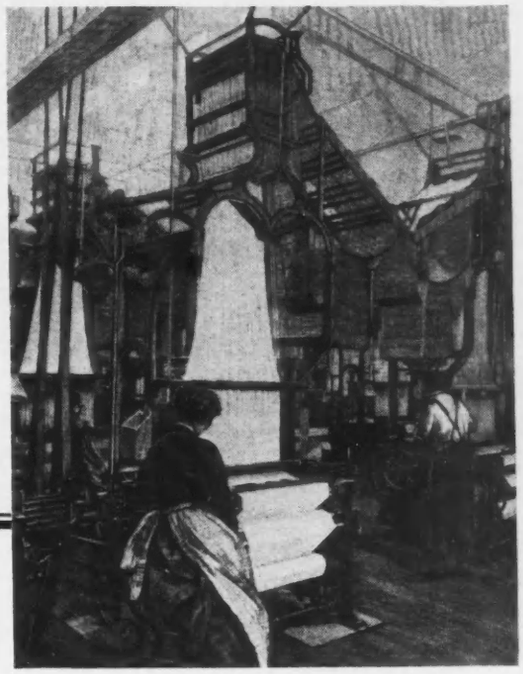
MUTUAL TRADE
124 W. 4th Los Angeles 13, Calif.

(Additional Wanted Advertising on page 286)

Joseph Marie Jacquard caught a big idea in a fishing net!

JOSEPH MARIE JACQUARD, a working mechanic of Lyons, France, having invented a fishing-net loom, turned his attention to improving the means of drawing the harness in looms for figured weaving, about 1790. His first model had no resemblance to the modern machine. It was made with cords and rollers — but it led to the production, in 1804, of the ancestor of the modern Jacquard Loom. It made practical the weaving of threads under, over and through the warp. Tho' intended for hand work, nearly all its working parts (with improvements) are still to be found in the power-operated Jacquard Looms in use today.

Illustration from the Bettman Archive



SERVING THE TEXTILE INDUSTRY

2—#00 Sturtevant Blowers, paddle type, belt driven
1—62½ C&M Brushing Machine
3—2—46", 1—50" Button Breakers
1—48" Bridesbrug Card Set, 2 Cyl. Wood
1—48" Furbush & Gage Card Set, 3 Cyl. Wood
1—60" x 42" D&F Single Breaker Iron Card
8—Whitin Model C Combers
1—Whitin Model C Ribbon Lapper
1—Whitin Model C Sliver Lapper
2—48" D&F Ceiling Condensers
1—64" Volker Dewing Machine
1—100 Spindle, #25 Foster Doubler equipped for wooden Tubes, motor driven with 5 HP, 550V motor
3—48" P&W Doubling, Boarding and Winding Doublers
1—Set 20 H. W. Butterworth 108" Dry Cans, dryer, motor driven, with Reeves Drive
1—72" Schofield Automatic Duster, no apron, no fan
1—54"x54" Batch Type Waste Duster
2—26" Tolhurst Extractors, belt driven, overhauled
1—30" American Laundry Extractor, copper tinned basket, belt driven, under drive
2—40" Cleveland and Tolhurst self-balancing copper basket Extractors, top pulley drive
6—40", 42", E&H and C&M Folding Machines, with take-up stand, chain drive, no motor.
1—100" C&M Flat Fold Folding Machine, 1 HP GE Ind. motor
6—#7 Hunter 2-String Fulling Mills, belt driven
1—48"x21" Smith & Furbush Garnett with feed apron
1—49"x20" James Smith Garnett
15—40", 48", 54", 60", 70", 90" Card and Napper Grinders, with and without floor stands
2—Peerless Belt Lacing Machines
1—Card Lacing Singer Machine ½ HP GE Ind. Motor
2—45½ C&K 4x1 Looms, 25 harness with 1 HP D.C. motors
1—48 C&K 4x4 Box Loom, 25 harness, motor drive
32—45½" Reed Space Draper Model K and Hopedale Automatic Looms, 20 harness, belt drive
8—54" Reed Space C&K 2x1 Looms, 20 harness, belt drive
31—54" Reed Space C&K 4x1 Looms, 20 harness, belt drive
16—54" Reed Space C&K 4x1 Looms, 25 harness
12—54" Reed Space C&K 1x1 Looms, 20 harness
1—54" Reed Space C&K 1x1 Loom, 25 harness
68—80" and 82" C&K 2x1 Automatic Looms, 8 harness cam motions, motor driven
6—92" C&K 4x1 Automatic Looms, 8 harness cam motions with 2600 hook jacquards, motor driven
6—76" Draper Modified D Automatic Looms with Lacey tops, belt driven, equipped with midget feelers, friction let-off, warp stop motions and 1½ beams per loom
2—Starch Mangles
1—42" C&M Measuring Machine, 60 yd. dial, belt driven
1—54" P&W Measuring and Winding Machine with 100 yd. clock with motor
1—64" P&W Measuring and Woolen Cloth Winder
1—66"x24" P&W 60 yd. Measuring Machine, sanded roll, belt driven
2—24 Pole Smith Drum Skein Mercerizers
1—66" Woonsocket Double Napper, each cyl. with 20 rolls
1—72" P&W Single Acting Knit Goods Napper
1—80" D&F 20 Roll Single Acting Knit Goods Napper
1—80" D&F 20 Roll Single Acting Napper, belt driven
1—80" Woonsocket 24 Roll Double Acting Napper, belt driven
1—48" C. D. Sargent Burr Picker with new feed apon and blower
1—42" Olsham Fearnaught Picker with feed table, no feed
8—50", 65½", 66" and 98" Voelker and Gessner Single and Double Rotary Cloth Presses
3—50 Spindle Carpenter 54" Skein Reels, non-adjustable, belt driven
1—50 Spindle Carpenter 54" Adjustable Skein Reel, belt driven
3—50 Spindle Whitin Adjustable Skein Reels for 54" to 72" skeins, belt driven
1—60" C&M Single Blade Shear, plush, arranged for motor drive, no motor
12—66" P&W 2-Blade Shears, Model B, belt driven
2—66" P&W 2-Blade Shears, Model A, belt driven
2—60" P&W File Cut Single Shear
2—66½" P&W Single Blade Shears, belt driven
1—72" Monteforte 3-Blade Shear
4—76" C&M Single and Double Blade Shears
1—42" Singer with hood
1—32" D&F Jack Spooler
1—100 Spindle Draper Spooler with Foster Tension, McCall Guide
1—28" Wide x 12" Diameter Set of Iron Squeeze Rolls
1—30' Clip Tenter Frame with 36-76" Opening, brass gates, with Reeves Drive and motor
1—40' Butterworth Pin Tenter Frame with 44-62" Opening with Reeves Drive, arranged for motor, no motor
1—60" C&M Single Brush Tiger, arranged for motor drive, no motor
22—156 Spindle S&L Tape Driven Twisters, 3½" R, 5" gauge, belt driven
1—200 Spindle Lowell Trap Twister, 3½" ring, 5" gauge, arranged for chain motor drive, no motor
1—Washing Tub Agitator with motor
2—54" Entwistle Warpers
1—Card Clothing Winch
1—80 Spindle Foster Tube Winder
1—46" Winding, Boarding and Tubing Machine
2—58" P&W Winders, Edge, Stenciling and Winding
2—Sargent Yarn Conditioning Machines
1—Reduction Gear
1—#15533 Reeves Drive, Size 6, Class G, Range 3 to 1

QUANTITY OF MULE BOBBINS AND VARIOUS SIZE TWISTER BOBBINS AND WOODEN SPOOLS

MACHINERY LIQUIDATING COMPANY

OPA REGISTRATION NUMBER 789

EST. 1923

31-33 West 42nd Street NEW YORK 18, N. Y.

DOMESTIC TELEPHONE PEnnsylvania 6-8014 EXPORT

SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

FOR SALE

ITEM E-2
OPEN TENTERING FRAME
Butterworth Pin Type. 72" Med. Width.

ITEM 12208
CAN DRYER
25 Tinned Steel Cans 144" Face x 24" Dia. Butterworth—3 Section Vertical.

ITEM 6603
FLOCK GRINDER
Curtis & Marble #99591-432—Takes 20 H.P. Motor—No Motor Included.

ITEMS 9710 & 9944
BEAMING FRAME
Standard Size—80" Between Heads—30" Maximum Dia.

ITEM 10056
TACKING MACHINE
Made by Din & Moore Mfg. Co.—Will Take Cloth Up To 90"—Complete With Folder & Sewing Machine & Motor

ITEM 9945
WOODEN CREEL
85½" High—108" Long—7" Spindle—Centers for 220 Ends—3¼" Spindle—Centers for 440 Ends—Takes Paper Tubes

ITEM 9755
DEWING MACHINE
72"

ITEM 9866
BOIL OUT MACHINE
Includes Pumps & Foxboro Temp. Clock—Also Roll Up Machine—72"

ITEM H 1000
BACK WASHER DRYER
Taylor-Wadsworth—12 Cylinder

ITEM J.B. 123
2 WORSTED 48" LISTER-NIP COMBS
Ramsden & Stephenson—For Fine Wool—With Feed Boxes of 26 Fallers per Set

ITEM 6730
DOUBLING & MEASURING MACHINE
Parks & Woolson—#5599—Width 66"

ITEM 9841
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ITEM 10190 R
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All Belt Drive from 5 H.P. Motor—66" Wide

ITEM L.H. 789
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66" Wide

ITEM 6781
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2 E&B Skein Reels, 54" skeins
1 Size Kettle 48x48

2 4 cyl. Garnetts 60" with Feeds—1 J. Hunter, 1-P&S
1 Hermas 4 blade Shear.

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8—Whitin Tape Drive Twisters, 132 Spindles each, 7" Gauge, 5½" Ring, Equipped with 15 horse power motor.
10—Barber Colman High Speed Warpers and Creels—432 ends per creel—450 yards per minute.
1—Barber Colman Spooler—120 spindles.
1—Barber Colman Spooler—100 spindles.
1—Hermas Four Blade Shearing Machine for 45" Cloth.
3—Saco Lowell Vertical Openers—equipped with gallows drive.
4—H & B 8x4 Speeders—144 spindles each.
2—Whitin Spirawhirl Cleaners.
2—1917 Model 10 x 5 H & B Slubbers; 116 spindles each.
40—Motor Driven Stafford Looms 100".
15,000—4 x 5½ Lestershire Spools.

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1—43' E&H Folder
1—28" Drill Press
8—50" Iron Jigs
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1—50" Van Vlanderen Buttonbreaker
1—3 roll Hydr. Calender 36' wide
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1—Hydr. Watson & Stillman Pump
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1—Double Roll Batcher 50"

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2 BEAMERS (Motor Driven)
2 MEAS. & TUBING (Motor Drives)

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Complete Shoddy Plant With Carbonizing and Dyeing Equipment.

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4—K & G & Burkhardt 60" Extractors, rubber baskets
1—Hercules 48" Extractor, copper basket.
3—26" & 30" Hercules Extractors.
1—V.V. 42" self Balancing Extractor with motor.
2—Gessner 72" & 50" Vacuum Extractors.

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3—V.V. stainless steel lined dye becks, complete with motors and drives.
2—Smith-Drum 22 & 20 arm skein dyers.
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1'P & S 4-unit 8' Multipass Airlay Dryer.
1—National Loop Dryer, 6 fans, 86" wide.
1—Heathcote Pin Tenter Dryer.
2—P & S Hurricane Dryers.
2—3-Apron Conveyor Dryers
1—Hurricane Wool Dryer.
1—Hunter High-Speed Rotary Tenter Dryer.

NAPPERS
2—D & F Single Acting Nappers, 60" & 84".
3—Gessner & Woonsocket S. A. Nappers, 84"-90".
2—Woonsocket 86" 20-roll S.A.B.B. Nappers.
1—Woonsocket 86" 24-roll D.A.B.B. Nappers.

TENTER FRAMES
2—Textile Fin. & Butterworth Tenters, top openings, clips, 60' & 90'
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1—V.V. 40' Tenter, 60", S.S. clips.

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1—Textile 66" Low type Palmer.
1—V.V. 88" Palmer Quetch Unit.

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1'V.V. 60" 2-roll Dye Padder, rubber rolls.
2—2-roll Padders, 94" & 98".
2—Butterworth 50" Starch Mangles
3—Butterworth & Morrison 2 & 3-roll Quetches 50"-72".

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5—Textile 50", 60", 66" & 72".
4—2-roll B.B. Batchers, 50"-72".

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2—E & H Flat Folders, 50"-60", with motors.
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3—Plastic & Rubber Coaters, 50"-72".

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2—Riggs & Lombard Continuous Cloth Washers.
3—Empire Washers.
1—American Laundry Cascade Washer.

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2—74" Rotary Cloth Brushers
2—Double Wool Brushes, 84" wide.

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2—Butt, 2-roll Hydraulic Calenders, 30 & 100 tons.
1—Butt, 3-roll Embosser, 72".
1—Grand Rapids Calender, 46½".
1—Butt, 3-roll 55" Calender.
1—Textile Fin. Co. 150" 2-roll Calender.
1—Textile Fin. 2-roll. 60" Calender.
1—C. & M. 2-roll 60" Calender.
1—3-roll Ribbon Calender
1—4-roll 54" Calender.
1—K & G 3-roll 60" Finishing Cal.

SHEARS
3—P & W 2 Blade Shears 66½"
1—P & W Single Blade Shear 60".

DYE BECKS—DYE JIGGS
3—V.V. 4' stainless steel lined dye becks, complete with motors and drives. New all S.S. Dye Becks, 4'20' long.
4—60" S.S. Dye Jiggs.

1—Flock Stencil Print Machine, complete.

15—New S.S. Cans, 66", complete with motor & drive.

Complete Spinning Unit: Mule, Card & Picker

Complete New Method Laundry

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2—R.B. & F. 3-color Print machines, 40".
2—R.B. & F 5 & 7 color Print machines, 40".
1—Single Color Print Machine, 60".
1—Werner 54" Single Color Print Machine.

TUBERS & MEASURING MACHINES
3—Tubing & Measuring Machines, 50"-60".

WEAVING MACHINES
14—C & K 72" looms.
20—C & K heavy duck Looms, 76".
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30—C & K 2 x 1 looms, 68".
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1—Light Cord Tire Fabric Loom, 72".
55—C & K Jacquard Looms, 48".
100—C & K 36" Shirting Looms.

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Lot of Hosiery Knitting Machines.
Lot of Outerwear Knitting Machines.
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1—40" Fearnaught Picker.
1—Woonsocket Single Beater Breaker Picker.
4—Shoddy or Rag Pickers.
1—Whitin 40" Finisher Picker.
30—56" Fisher automatic Feeds.
3—C & M 40" & 42" Fearnaught Pickers.

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2—Sets 3-cyl. D & F 48" x 48" All Iron Cards.
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11—Davis & Furber Mules 2¼" gauge.
40—Whitin Spinners, 204 spindles, 4" gauge.
1—Davis & Furber Compressor Spooler.
12—#90 Universal Winders, for silk operations.
1—Sipp 80 spindle Winder.
4—Eastwood Skein Winders, 44" to 60" skeins
4—Payne & Huse Winders.
3—Sipp Eastwood Skein to spool Winders, 100-200 sp.

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2—V.V. 60" & 50" Button Breakers.

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5—Brownell Twisters, 48 to 96 spindles.
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DRYER, Single & Double Truck
DRYERS, Kenyon & Heathcote, 6 tier
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DYE TUBS, 6' wood, complete motorized
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DYEING MACHINE, Smith Drum Pocket type
DYEING MACHINE, Smith Drum 60 arm
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EXTRACTOR, VV Copper basket 48"
EXTRACTOR, open top 30" American
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FLAT FOLDERS, Elliott & Hall adjustable
INFRA RED units complete with blowers
INSPECTOR TABLES, with DC motors, 47"
JIGGS, monel lined 60", st.st. 50" & 60"
LOOMS, C & K, 2x1 46"
MEASURING MACHINE, P & W Model AWC
MOTORS, over 300 GE ¾ to 5 HP 220 volt
OVEN, equipped with Maxon heaters
PAD, 8 roll Hydraulic
PALMER 62"
PALMER QUETCH, 54" Butterworth
PALMERETTE, 60" face, General Machine
PLEATER, K & G
PRINT MACHINE, 10" sample or Ribbon
QUETCH, 2 roll VV 50" & 60" ball bearing
SCUTCHER, 50" AMW
SCOURING MACHINE, 3 bowl
SEWING MACHINES, Arlington, Bicycle
SHEAR, Hermas, 4 knife 70" wide
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STEAMER, Cottage, 12' long x 66" wide
TENTER FRAME, PIN, W. & J. 30'x220" wide
TIGERS, Dry P. & W. & C. & M.
TUBER, with examining board 80"
TUBERS, Paterson variable speed motors
TUBER, VV with doubling attachment
WARP COMPRESSOR CREEL
WASHER, open 4 compartment, 60" wide
WASHERS, Slop, New, stainless steel
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40—Triple decker textile make wire braiders

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2—New 72" Beamers, ball bearing throughout, motor drive.

DRY CANS

1 Set of 24 23" x 60" Stainless Steel Dry Cans, 3 upright stacks.
1 Set of 24 23" x 72" Stainless Steel Dry Cans, 3 upright stacks.

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1—50" Van Vlaandern 2-roll Quetch, motor driven, lever pressure, fully complete.
1—50" General Machine Company 2-roll Quetch, motor driven, fully complete.
1—50" Morrisson 3-roll Quetch, rubber covered top and center rolls, brass bottom roll, motor driven, fully complete.
1—50" Van Vlaandern 3-roll Quetch, rubber covered top and center rolls, brass bottom roll, motor driven, fully complete.

DYE PADDERS

1—60" Textile 2-rubber roll Dye Padder 12' Diameter x 60" face, motor driven, lever pressure, stainless dye pan, motor driven, fully complete.
1—72" Textile 2-rubber roll Dye Padder, 12" diameter x 60" face, stainless steel dye pan, motor driven, fully complete.
1—80" Textile 2-rubber roll Dye Padder, 18" diameter x 80" face, take up, let off, motor driven.

EXTRACTORS

1—48" Motor driven Extractor, self balancing with copper basket.
1—60" Van Vlaandern, self balancing, motor driven, Extractor rubber lined.
1—42" Van Vlaandern Extractor, self balancing, motor driven, with copper basket.
1—28" Poland Extractor, belt driven.

DRIERS

1—Double Line National Loop Drier, 6 side fans, motor driven, take-up, pleater folder, revolving sticks. Set-up and in fine condition.

TENTER FRAMES

1—30' Textile Tenter Frame 50" wide, tail top stainless steel plate clips, open gear drive, back stand, cylinder, take up, fully complete.
1—40' Van Vlaandern Tenter Frame 60" wide, tailtop stainless steel plate clips, enclosed worm gear drive, back stand, take up, cylinder.
1—Pin Tenter Frame 140" wide by 23 feet long—Lace tenter frame.

DYE KETTLES

2—8' Stainless Steel Dye Kettles fully complete 40" deep.
2—10' Stainless Steel Dye Kettles fully complete 6' deep.
2—6' Stainless Steel Dye Kettles fully complete 40" deep.
4—2' Stainless Steel Dye Boxes 40" deep. These boxes are all new welded, constructed 14 gauge stainless steel and are fully complete with motor and reels.

COLOR PANS

Stainless Steel Color Pans, round storage tanks with bottom outlets. Built to suit any size.

BATCHERS

2—72" 2 Steel Roll Batchers, complete ball bearing.
2—96" 2 Steel Roll Batchers, complete ball bearing.
2—60" 2 Steel Roll Batchers, complete ball bearing.

KNITTED GOODS

4—Knit Goods Steaming Calendars.

CALENDARS

1—70" 3-roll Calendar, top and bottom rolls of paper 17" diameter by 70" face, center roll of heated steel, lever pressure.
1—48" 3-roll Calendar, top and bottom rolls of paper, center roll steam heated, lever pressure.

DOUBLERS

1—60" Windle Doubling Machine.
1—50" Van Combination Doubler, tuber and reeler, motor driven.

FS-742, Textile World
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Six Hopedale Twisters:

80 Spindles each, band drive 5-½" gauge, 4-½" ring, 6-½" Traverse, 7" Cylinder, 2-⅝" whorl. Creels for 5 ply.

Two Hopedale Twisters:

100" Spindles each, band drive, 4" gauge, 3" ring, 5-½" traverse, 8" cylinder, 1-⅝" whorl. Creels for 4 ply.

FILLING WINDERS:

3 Lazenby Cop Winders, 10 spindles each. Size of cop 1-9/16" diameter, 10" long.

TEN LOWELL SPINNING FRAMES

as follows:

Six—204 Spindles each
Two—216 " "
Two—192 " "

All Band Drive, 3" gauge, 2-¼" ring, 7" traverse, 10" cylinder, ⅞" whorl. Double Birkenhead Creels.

Four Wooden Tanks:

9' 4" long inside
4' 0" wide "
3' 1" high "
All 2" stock

TWO RUBBER COVERED ROLLS:

18" diameter, 10' long.

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17" diameter, 9'6" long, Shaft—3" diameter by 4" long on each end.

One Set of 105" VERTICAL DRY CANS:

40 cans to the set, complete and including Swing Folder.

Two Windsor & Jerald 40' TENTER FRAMES

One Proctor & Schwartz, 3 unit, 8 foot automatic loop dryer.

Electric Motors:

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One 40 H.P., 440 Volts
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One 10 H.P., 440 Volts
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Dubied and C & F hand machines

14 and 16" BEDS.

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MODERN RAW STOCK DYEING MILL

2—1000 lb. Chattanooga raw stock dye machines

1—50 lb. Chattanooga sample machine

1—10 lb. Chattanooga sample machine

Complete with all motors, pumps, valves, connections.

1—Rochester 48" extractor

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Overhead track system with electric hoist.

1—Mixing tank

2—Storage tanks

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7—Prince - Smith cap spinning frames, 136 spindles each.

6—Prince - Smith cap spipnning frames, 144 spindles each.

RAYON FINISHING EQUIPMENT

1—Butterworth 90' Tenter Frame, 50" width, with 15 HP motor, with steam coils and brass clips.

1—Butterworth 50" stainless steel dye jigg, with motor.

1—Van Vlaanderen 54", 2 roll Quetsch, ball bearing.

1—Gessner 70" Semi-Decator, 30" diameter cylinder, complete with blanket and vacuum pump.

1—56" Examining & Measuring machine.

2—Windsor & Jerauld 40' Tenter Frames

Set of 105" vertical dry cans, 63 cans to set, complete and including swing folder.

2—Elliot & Hall Flat Folders

1—Butterworth 30' Tenter Frame.

WOOLEN EQUIPMENT

4—80" double teasel Gigs, with 7½ H.P. Motor.

2—80" Steaming Machines, equipped with pleating device.

1—National Loop Dryer, 24' x 11' High, 84" wide.

3—Foster #30 winders, 100 spindles each.

Autoclave, Beamers, Blocks, Button Breakers, Calenders, Dryers, Can, Loop, and Conveyor, Gigs, Kettles, Pebble Mills, Enamels, Pans, Pantograph Engravings, Pumps, D.C. Motors, Padding Machine, Quetsch, Pebbles, Rolls Tanks, Water Softeners, Water Filters.

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1—Sargent 36" Burr Picker with automatic feed
1—E. & H. 66" yard folding machine
3—O.L. #20 High Speed Cap Winders
1—Sargent 48" Rotary Feed with squeeze rolls
1—P&W Doubling & Folding & Measuring Machine, 66"
4—Smith-Drum 50# Hosiery Dyeing Machine, all Monel
1—48" D. & F. 6 bar Mixing Picker
1—Entwistle ReBeamer, 80" beams
20,000 Wood Spools, 4"x6", 4½"x6"
1—Voelker 66" Press with extra cylinder & jackets
2—Spoolers, 12 & 24 Drums, 6" Drums
1—L. & G. Chenille Cutter, all New Knives
7—Can Copper Dryer, 33"x23"
1—Set (7) Dry Cans, 90" wide, copper
1—84" D.A. Woonsocket Napper 20 rolls, Motor Drive
19 Plush Beams, 70" with 24" flanges, all steel

UNIVERSAL WINDERS

#50's and #90's, rebuilt to order.

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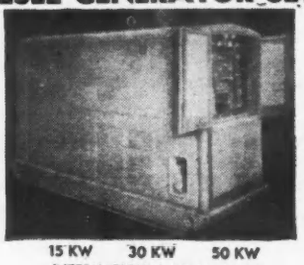
PORTABLE DIESEL GENERATOR SETS



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RADIATOR COOLED—SKID MOUNTED
60 cycle 127/220 volts
50 cycle 230/400 volts
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Port Washington, Long Island, N. Y.
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Winders:—Two No. 90 Universal filling winders—20 spindles each.

Feeds:—Three 60" Bromwell Feeds.

Carbonizer:—One cloth carbonizer capacity 24 pieces daily 10 oz. cloth.

Condenser:—One 60" Double Apron 2 bank Rub condenser.

All used machinery in good order, offered subject prior sale; can be seen any time, location near Montreal. Write

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Fletcher Cam Motion. New spare parts. 20 spindle cop winder. Weaves asbestos brake lining and conveyor belting.

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TWO REINER AUTO HEELERS

51-gauge complete with all necessary auxiliary equipment.

FS-722, Textile World
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FOR SALE

One Butterworth 8 multi-layer pin tenter frame—will finish cloth to 84 inch width

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330 West 42nd St., New York 18, N. Y.

FOR SALE
Wildman 34 Cut

SPRING NEEDLE MACHINES

12 inch	19 inch	23 inch
16 inch	20 inch	24 inch
17 inch	21 inch	26 inch
18 inch	22 inch	28 inch

FS-684, Textile World
330 West 42nd St., New York 18, N. Y.

L. J. McCAFFREY & SON

COTTON SUPPLIES FOR SALE

11,863—Heddle Frames, 37" to 88" for 12" Heddles—Metal End Piece.
1,500—Heddle Frames, 40" to 48½" for 12½" Heddles—Metal End Piece.
4,787—Heddle Frames, 43½" to 69" for 10" Heddles—Metal End Piece.
12,193,885—Flat Steel Heddles—9", 10", 12", 14", 16" (Various size eyes).
671,087—Twisted Wire Heddles—10", 12", 14".
666—Dutcher Temples—Single and Double Roll—#107, #309, #357, #363, #1402, #1403, #1947.
2,000—Aluminum Perforated Dye Tubes (Tapered)—7½" L. x ¾" x ⅜".
4,200—Rabbeth Modern Spinning Spindles—Saco-Lowell & Whitin—Tape Drive Clutch.
1,075—10" Ratchet Ring Gears—26 T. to 106 Teeth.

P.O. BOX 495 **PAWTUCKET, R. I.**

FOR SALE

Repeaters, Lacers Card Cutters Jacquards of all description, also Plush Jacquards

EUGENE SECKLER
96 N. 9 St., Paterson, N. J.

FOLDING MACHINE

Curtis & Marble cotton yard folding machine, like new, located in New York City.

FS-688, Textile World
330 West 42nd St., New York 18, N. Y.

FOR SALE

1—Atwood 5B Spinner—100 spindles—Individual motor with bobbins.
2—Atwood 10K Reels—8 Flys each—54" skeins.

FS-737, Textile World
330 West 42nd St., New York 18, N. Y.

New "SEARCHLIGHT" Advertisements

received by August 8th will appear in the August issue, subject to space limitations.

Classified Advertising Division

TEXTILE WORLD
330 West 42nd St., New York 18, N. Y.

WE OWN AND OFFER FOR SALE

248—Model "C" Draper automatic shuttle change looms, individually motor driven, 25 harness dobby, fine gear take-up, sliding bar, warp stop motion, center filling fork, individually motor driven with motors, removable cloth rollers, 51" reedspace.

5—Sets of 48 by 48 and 48 by 60, 3 cylinder card complete with rub or tape condenser, Bramwell feeds, Camelback center feeds, individually motor driven at present in operation for delivery July and August.

132—Draper Automatic Looms for 60" goods, equipped with Roper let-off and ratchet take-ups.

52—Draper automatic Looms for 48" goods, Roper let-off, worm take-up.

250—Draper automatic looms for 40" goods, Roper let-off and ratchet take-up.

40—Crompton and Knowles Automatic looms 4 x 1 with 20 harness dobbies to weave 40" goods.

34—Fletcher double deck spinners, 64 spindles each deck or 128 spindles to the machine. Each deck individually motor driven by a 3 HP motor. 7" center to center spacing. 5" Cork covered take up rollers.

8—Ribbon looms with dobbies. 15' 6" with double set of battens, one set for making Boucle fringe, the other set of battens for regular ribbon work.

10—Crompton and Knowles 4 x 4 48" Jacquard looms.

20—Crompton and Knowles 2 x 2 48" Jacquard looms.

70—Crompton and Knowles 600 hook double lift Jacquard machines.

100—#90 Universal quillers or coppers, with or without bunch builders belt driven or motor driven.
Sipp or Atwood winders to wind from skein to spool.
Sipp or Eastwood warpers and creels.

5—Atwood 5Bs Doubler twisters.

68—C and K motor driven looms 4 x 1, equipped with dobbies, warp stop motion, pick clocks, temples, beams, etc.

74—2 x 1 same as above all for 48" cloth.

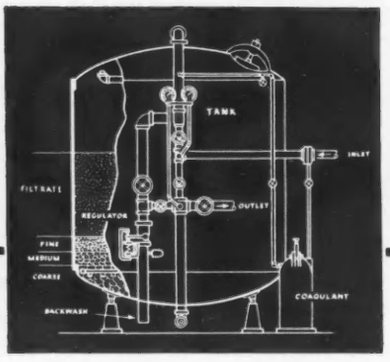
PATERSON
SILK MACHINERY EXCHANGE

24 Spruce St., Paterson, N. J. **Sherwood 2-1363-4-5-6**

GOVERNMENT-OWNED SURPLUS

WATER SOFTENERS

Small communities, plants, laundries and others who have been forced by war conditions to delay purchase of water softening equipment may now get the needed units in a hurry and at low cost. Over $1,000,000 worth of this equipment has been declared surplus and is ready for delivery. This equipment, much of it unused, was built to rigid government specifications for use in Army and Navy installations all over the world. The units and accessories are suitable for installations which would normally call for expenditures from $1000 to $70,000 — but in this instance the cost of the equipment will average considerably under normal expenditures. To purchase this equipment, simply call your nearest W.A.A. Regional Office or mail the coupon below.



HOW TO BUY

1. Determine engineering requirements set up by your specific needs.

2. If you are a veteran obtain your priority certificate from the W.A.A. priority certification office in your area. (Check W.A.A. Regional Office for addresses of such offices).

3. Contact W.A.A. office (by phone or letter) nearest you and request aid in locating the specific kind and type of equipment you need. Prices and terms of sale can be quickly arranged.

FREE INFORMATION:

To War Assets Administration:

I am interested in water softening equipment and accessories for an installation capable of handling.....gals. per minute. Without obligation, please send me pertinent information.

Name.....Telephone No.....

Firm.....

Address.....

City.....State.....

554

WAR ASSETS ADMINISTRATION

OFFICES LOCATED AT: Atlanta • Birmingham • Boston • Charlotte • Chicago • Cleveland • Dallas Denver • Detroit • Helena • Houston • Jacksonville • Kansas City, Mo. • Little Rock • Los Angeles Louisville • Minneapolis • Nashville • New Orleans • New York • Oklahoma City • Omaha Philadelphia • Portland, Ore. • Richmond • St. Louis • Salt Lake City • San Antonio • San Francisco Seattle • Spokane • Cincinnati • Fort Worth

FOR SALE

WILDMAN 28 CUT SPRING NEEDLE MACHINES

NUMBER OF FEEDS	CYLINDER SIZE
6	11"
8	12"
8	13"
8	14"
10	15"
10	16"
10	17"
12	18"
12	19"
12	20"
12	21"
12	22"

FS-643 Textile World
330 West 42 St., New York 18, N. Y.

FOR SALE

5½" by 1" and 6" by 1" Feaster Grease Groove Rings and Eadie Self-lubricating Rings, both new and very slightly used.

FS-735, Textile World
330 West 42nd St., New York 18, N. Y.

FOR SALE

ATWOOD TWISTERS

8B Twisters, belt driven. 2¼" cork covered take-up rolls.
3—machines, 100 spindles each
1—machine, 92 spindles
1—machine, 88 spindles
1—machine, 86 spindles
9—machines, 132 spindles each.
8—machines, 100 spindles each. Belt driven. 3" cork covered take-up rolls.
1—6B Twister, 92 spindles, friction drive, 3" cork covered take-up rolls.

FS-724, Textile World
330 West 42nd St., New York 18, N. Y.

FOR SALE

75,000 Used 8¾"

WOOL AUTOMATIC BOBBINS

Price and samples on request.

FS-720, Textile World
330 West 42nd St., New York 18, N. Y.

FOR SALE

Four Proctor & Schwartz automatic hosiery boarding machines equipped with aluminum forms for boarding women's hosiery.

FS-723, Textile World
330 West 42nd St., New York 18, N. Y.

CONDITIONS MAY BE *UNSETTLED*

BUT YOU CAN BE CERTAIN
OF THE SAME RELIABLE SERVICE FROM
—FOR BUYING
—FOR SELLING
THE BEST IN TEXTILE MACHINERY

McDOWELL ASSOCIATES

JUST A SAMPLE LIST—CHECK IT!

DYEING & FINISHING

1—BATCHER 60" with Railway Sewing Machine head, mtr. driven.
2—BATCHERS 50" annd 54" Single & Double roll units.
1—BRUSH 68" steam 2 roll unit.
1—BRUSH & SHEARING Unit 44" with 4 sets cutting parts & brushes.
1—CALENDER 5 Bowl 50" mt. driven.
1—CALENDER 4 Bowl, 60" Hydraulic mtr. driven.
2—CALENDERS 6 Bowl units 80".
3—CALENDERS EMBOSSING 54" and 66" units 2 roll machines.
3—DOUBLERS & Measuring Machines 44" to 66" goods.
1—SET DRY CANS COPPER 66" face x 23" dia. horizontal stack.
1—DECATUR 72" with pump, arranged motor drive, no mtr.
2—DEWING & Spraying Machines 60" cloth.
1—DRYER HUNTER Drum type for Tubular Knit goods.
1—DRYER LOOP 84" with metal housing, fan, steam coils, etc.
1—DRYER PIN 74", P&S Housing airfin blowers, etc.
1—DRYER PIN 84", P&S Housing airfin blowers, etc.
1—DRYER RAW STOCK 30' long, 300-lb. unit.
4—DYEING Machines 500 and 750-lb. units.
3—DYEING Machines SKEINS 28 and 56 Stick units, mtr. driven.
1—DYEING Machine SKEINS 60 Stick, pyrex arms, mtr. driven.
3—DYE TUBS Sample type S.S. Lined.
3—EXTRACTORS 40" Copper baskets, Overhead belt drive, safety covers.
2—EXTRACTORS 42" and 60" copper baskets, underneath belt drive.
1—EXTRACTOR VACUUM 80" Single slot, Nash #3 Hytor pump.
1—FOLDER 54" Bag Type with knife.
2—FULLING MILLS Double Compartment units.
21—HUMIDIFIERS Bahnson Model G—mtr. driven.
1—INSPECTION & MEASURING Machine 96" with clock.
4—JIGGS 42" S.S. Lined tanks, mtr. driven.
2—JIGGS 60" S.S. Lined tanks, belt driven.
1—KETTLE 6' Box with reel, wood tub.
2—KETTLES 4' & 5' Boxes S.S. lined.
6—KIERS circulating pumps, 36" opening 1272 to 3392 gallon capacities.
1—MANGLE 40" rubber and brass roll with trough.
1—MANGLE 42" top & bottom composition rolls, middle bronze with trough.
1—MEASURING Machine 48" tube to tube, mtr. driven.
1—NAPPER 80" D.A. 20 rolls Cotton.

1—NAPPER 80" D.A. 36 rolls Cotton & Woolens.
1—NAPPER 90" Knit-goods 20 rolls.
2—PADDERS 60" & 69" both 2 roll units rolls rubber.
1—NAPPER 66" D.A. 24 roll unit Woolens.
1—PALMERETTE 60" x 40" dia. with drying cylinder & blanket.
3—PRESSES, Rotary 60" and 80" Double Bed units.
1—ROLLER MILL for Plastics 32" face rolls.
6—SHEARS 45" to 68" SINGLE & DOUBLE Blade units.
1—SINGER 70" with 4 burners.
1—SLASHER 64" with 3 copper cans 23" dia. & sizing unit.
1—SLITTER 42" with 87 knives 5¼" diameters.
1—TENTER FRAME PIN 33' x 66" width.
1—TENTER FRAME PIN 50' x 60" width.
1—TUBER 48" with motor.
2—WASHERS Rope type 6' Boxes.
2—BACKWASHERS with Dryers 9 cans each, with Gill Boxes.
1—WASHER Rope type 8' Box.

CARDING, SPINNING & WEAVING

40—BOBBINS 8" used on Spinning Mules.
1—BREAST 48" with new metallic clothing.
1—CARD Single Cylinder 45" face x 48" dia. with Condenser.
1—CARD 3 cylinder 48x48 complete now operating.
12—COMBERS Whitin Model C 8 heads, 12" coilers.
2—COMBS Worsted Single Dabber 48s & 50s wool.
2—CONDITIONERS Sargent yarn type.
4—DOUBLERS 100 Spindles each 2 ends up.
7—DRAWING FRAMES 6 deliveries each, 10" coilers.
6—DRAWING Frames 6 deliveries each, 12" coilers.
7—FEEDS 52" as used on Cards.
1—FEED APPERLY 60", used on card.
1—FEED 60" as used on picker.
4—GILL BOXES Single Head double delivery.
4—INTERMEDIATES 9x4½, 72 and 126 spindle units.
14—Jacquards 1304 hooks each, double lift.
2—JACKSPOOLERS 48" with clocks, compressors 60 ends each.
4—LAPPERS 20 end silver feed making 10½" Lap.
3—DRAPER D LOOMS 40" individual motor driven.
12—STAFFORD LOOMS 60" shuttle changing.
8—C&K LOOMS 72" 4x4 box, 16 harness.
4—C&K LOOMS 82" 4 4 box, 12 harness.
6—C&K LOOMS 82" 4x1 automatic, 25 harness dobbies.
11—C&K LOOMS 92" 4x1 automatic, 12 harness dobbies.
1—MULE 288 Spindles, 2¼" Gauge.
1—MULE 360 Spindles¼, 2" Gauge.
2—MULES 420 Spindles each, 2¼" Gauge.
1—H&B VERTICAL OPENER, Condenser & Fan.
1—VERTICAL OPENER with Hopper feeder, apron & screen section.
1—PICKER 24" x 24" Waste mtr. driven.
2—PICKERS BURR 24" and 40" one with hopper feed.
2—PICKERS RAG 42" x 36" Dia. with workers and lumpers.
3—REELERS, Skein 54", 80 spindles each double side.
4—SLUBBERS 11x5½, 56 and 64 spindle machines.
4—SPEEDERS 7x3½, 144 Spindles each.
8—SPEEDERS 8x3½, 160 Spindles each.
12—SPEEDERS 7x3½, 176 Spindles each.
10—SPINNING FRAMES 3" Gauge, 256 Spindle units, band driven.
1—TWISTER 52 Spindles, 4½ Ring, 5½ Gauge, tape drive.
22—TWISTERS 156 Spindles each, 3½" Ring, 5" Gauge, tape drive.
1—WARPER BALL TYPE 2560 ends.
1—WINDER Universal GF 68 Spindles to wind on cones.
1—WINDER FOSTER 60 Spindles to wind on cones.
2—WINDERS Oswad-Lever 24 Spindles each with Waxing attachments.
2—WINDERS FOSTER 80 Spindles each to wind on tubes.
4—WINDERS Lazenby 30 Spindles each, K-Type for Bobbins.
1—WINDER COP 12 Spindles making cop 12½" long.

Our Offices & Warehouse closed SATURDAYS during July and August.

McDOWELL ASSOCIATES, Inc.

2568 Park Avenue — Bronx 51, New York

Tel.: MElrose 5-1772

FOR SALE

Complete Weaving and Throwing Plant for Silk and Rayon Fabrics—

Includes:

82—C. & K. 56" wide 2 x 1 box loom, gem heads, multipliers, electric warp stop and filling feelers.

9—Universal #90 Lessona Quillers, 20 spindles each.

1—Sipp Eastwood 84" wide High Speed Warper, 8 yard reel complete with 600 cone Sipp Creel.

1—Chas. B. Johnson 5 drum Rayon Sizing Machine.

30—Atwood Up Stroke Spinners, 72 to 100 spindle each.

8—Atwood 5-B's 100 spindle each.

6—Reels Atwood and Scranton types.

10—Atwood Columbian Winders, 100 spindles each.

1—24" Curb Extractor.

1—Steam Box.

In addition to the above there are the usual auxiliary items of harnesses, supplies, bobbins, quills, parts, etc. etc.

All machines are motor driven with 3/60/220V motors AC.

This plant can be moved from its present Northern location.

MORRIS SPEIZMAN CO., INC.

508-14 WEST FIFTH STREET CHARLOTTE 1, N. C.

Phone 4-5546

FOR SALE

400—New England Butt Braiders
44 Top Latch Carriers
Single Sand Roll Takeups
Front Can Delivery
High Legs

STANDARD MILL SUPPLY COMPANY

1064-80 MAIN ST. PAWTUCKET, R. I.

Perry 1037—1038—1039

FOR SALE

PORTABLE SEWING MACHINES

3 Singer #11-W-6 Portable Hand-power Machines for sewing spindle tapes. Write

FS-739, Textile World
330 West 42nd St., New York 18, N. Y.

FOR SALE

1 Davis and Furber Mule, 288 sp., 2" ga., 24 end spools. Numerous spare parts for D & F Mules.
3 Davis and Furber 48 end spoolers

PRAIRIE DU CHIEN WOOLEN MILL CO.
Prairie du Chien, Wisconsin

DYEING MACHINERY

4 Hart warp machines, Granger warp drying cans with coiler; forty two inch engine driven whizzer copper basket; fifteen hundred pound Proctor skein yarn dryer

PENN TAPESTRY CO.
Glenn Riddle, Pa.

ARGENTINE WOOL

Exporter washer of washed Wool, crude and combed (Tops), offers his products to manufacturers and importers of wool.

Ask for prices and samples without any engagement

I. POMERANIEC
J. E. Uriburu 383, Buenos Aires
CABLE ADDRESS: PORTEX Buenos Aires

FOR SALE

Staple Fibre Cutter (Rotary)
60" Broadbent Centrif-Extractor
24" C&M Wool Mixing Picker
48" Barker Rubb-apron Condenser
Set of Crush Rolls for Carb. Burrs
6—C&K 82" Hvy Wsted Looms 4x4

PAUL M. BROOMFIELD
Used & Rebuilt Textile Machinery
15 Hathaway St. Boston 10, Mass.
Longwood 3980

FOR SALE

SIX 5-B SPINNERS

Equipped for belt drive.
Single roll. 2½" ring.

FS-721, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

(Additional Wanted advertising on page 276)

WANTED

JACQUARD CARDS

Designs for C&K Head 2140 Double lift, single cylinder, 1304 hooks. Design must be for 944 hooks, 4 repeats, double scale, 8 shafts skipped.

W-738, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

12 PLUSH LOOMS

W-694, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

12—Lindsay Hyde 72"
SKEIN REELS
Address
W-703, Textile World
330 West 42nd St., New York 18, N. Y.

NEEDED IMMEDIATELY

82" or larger, Draper loom beams—preferably 26" flanges.

Address reply to:
MASTERCRAFT WEAVING CO.
57 State St., Paterson, N. J.

WANTED

1 Crompton & Knowles 82" Heavy Worsted 4 x 4 Loom
1 60" Tape Condenser any make or condition
2 Johnson & Bassett Mules.

W-740, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

7 gangs #50 Universal winders

Please state details as to arbors, center distance of spindles, where located, and price.

WILLIAM JOHL MFG. CO., INC.
MYSTIC, CONN.

CRESCENT LEADERSHIP IN THE TEXTILE FIELD

ESTABLISHED BY EXPERIENCE AND SPECIALIZED SERVICE

OPENING & PICKING

1—Saco-Lowell Bale Breaker, 1922
1—Whitin Intermediate Picker, 40"
2—Kitson Finisher Pickers, 40"
4—H & B Finisher Pickers, 40"
8—Vertical Openers, Woonsocket, Saco-Lowell and H & B
3—H & B Bale Breakers, 45"
1—Whitin Bale Breaker, 45" 1920 Model
10—H & B Hopper Feeders, 42", 1920 Model
8—H & B Breaker Pickers, 3 Blade Beaters, 1920

CARDS

5—Sets Davis & Furber 2 cylinder Woolen Cards, iron cylinders, 60" diameter, 54" face with Bramwell Feeders, Tape Condensers motor driven
1—Dobson & Barlow 45" Waste Card, flat top, with breast
2—Sets James Smith Woolen Cards, 2 cylinders, 60 x 60, wooden cylinders, ring doffers.

DRAWING & ROVING

132—Deliveries H & B Drawing, 10" Coilers
15—Deliveries Whitin, 5 Delivery Heads, 12" Coilers
11—12 x 6 Slubbers, Whitin, Woonsocket, and H & B
14—11 x 5½ Slubbers, Whitin, Woonsocket, and H & B
6—10 x 5 Slubbers, Saco-Pettee and Woonsocket

SPINNING

27—Whitin Spinning Frames, 2-¾" Gauge, 1-¾" Rings, 272 spindles, individual motor drive
5—Saco-Lowell Tape Drive Spinning Frames, 288 spindles, 2-¾" gauge, 1-⅜ ring
39—Whitin Long Draft Spinning Frames, 2¼ rings, 240 spindles, 1920 model
22—Saco-Lowell Tape Drive Long Draft Spinning Frames, 228 spindles, 2¼ rings, 1927 model
79—Fales & Jenckes Spinning Frames, Long Draft, 240 spindles, 3¼ gauge, 2¼ rings, tape drive.
5—Whitin Long Draft Spinning Frames, 3¼ gauge, 2" ring, 216 spindles, tape drive

Crescent has established LEADERSHIP, not simply through Specialization in Textile Machinery, but because Crescent has gained a reputation for fair dealing, and for protecting the CUSTOMERS' interests FIRST.

Without that, the fact that we have the LARGEST stock of Textile Machinery means nothing. Much of this machinery we own. Our own trucks facilitate prompt movement, whether we sell you or buy from you.

Space forbids all the Crescent story here and now. This is a BIG organization, far bigger than you may realize. Just remember — Crescent LEADERSHIP through Experience and Specialized Service, when you want to buy or sell, a gear wheel or a complete Textile Mill!

TWISTERS

10—Fales & Jenckes Tape Drive Twisters, 100 spindles each, 5½ gauge, 4½" rings, motor driven by 7½ HP, 440 volt motors
18—Fales & Jenckes Tape Drive Twisters, 132 spindles, 5½ gauge, 4½" rings, motor driven by 15 HP, 440 volt motors.
12—Saco-Lowell Dry Twisters, model BC, 7" gauge, 5½" vertical rings, tape drive, 132 spindles, motor drive, 1944 model
7—Saco-Lowell Jack Twisters, 3" gauge, 1-⅝" rings, tape drive using 50" Jack Spools, 18 ends per spool, motor driven, 1924-1928 models
6—Collins Tape Drive Twisters, 4½" gauge, 3" ring, 152 spindles, 1921 model

WINDERS

8—Foster #12 Winders, Semi-Hi Speed, 100 spindles each
10—#50 Universal Cone & Tube Winders
4—#25 Foster Doublers, Multiple Wind, motor driven
1—Foster #56B Doubler, 1930 model motor driven, 40 spindles
5—Abbott Wood Cone Dinders, Automatic Heads, 120 & 160 spindles, 1939-1940 models
2—Foster #30 Winders, 100 spindles

LOOMS

112—Draper Model "E," 42" reed space
28—Draper Model "E," 43" reed space
350—Draper Model "E," 45½" reed space
68—Draper Model "E," 45" reed space
121—Crompton & Knowles 52½" reed space 20-harness double index dobbies, non-automatic
48—Draper Model HC Looms, 76½" reed space, Knowles worsted heads, motor driven
50—Stafford Looms, 100" reed space, automatic shuttle change, motor driven

Hundreds of Other Looms Available—Write or Phone Us Your Needs

FINISHING

1—Arlington 50" Scutcher
1—46" Granger 3 Roll Friction Calender
1—44½" Butterworth 5 bowl calender
1—Butterworth ¼ ton experimental laboratory type steel kier, complete with pump, motor driven
300—Copper Dry Cans, 50" face, 23" diameter, vertical frames, removable journals, siphon & bucket
1—Set Butterworth New Stainless Steel Cans, 17 cans, 23" diameter, 45" face, vertical frames, siphons, traps, roller bearing
1—Set 39 Cans, 23" diameter by 130" face, stainless steel, vertical frames, roller bearing, individual traps, siphons, etc.
1—Set 36 Copper Horizontal Dry Cans, 30" diameter, 86" face
5—7 & 8 Can Back Greige Print Can Sets, 60" diameter cans

LIQUIDATIONS
APPRAISALS

CRESCENT CORPORATION

SALES
PURCHASE

LEADERSHIP THROUGH EXPERIENCE AND SPECIALIZED SERVICE

Jacob Ziskind, President

26 FRONT STREET FALL RIVER, MASS.

EXPORT OFFICE:
40 WORTH ST., NEW YORK, N. Y.
Telephone Cortlandt 7-1562

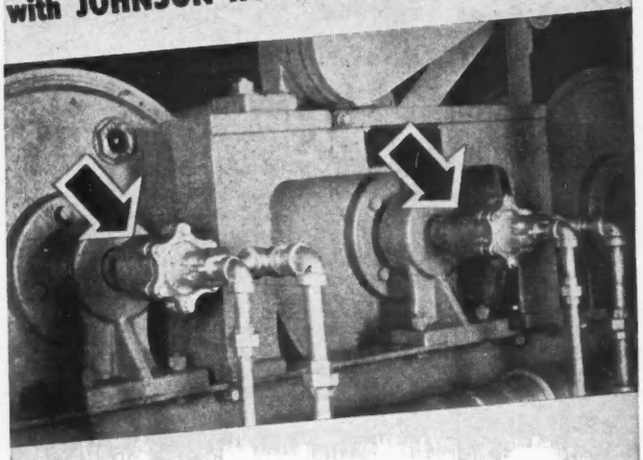
TELEPHONE
7-9423

SOUTHERN SERVICE CENTER:
SPARTANBURG, S. C.
Telephone 3600

save

manhours
production time
maintenance cost

with JOHNSON ROTARY PRESSURE JOINTS

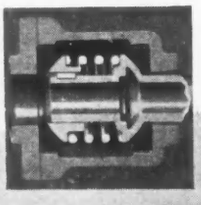


● Operating men everywhere have learned that the Johnson Joint is far more than just a better stuffing box or steam fit. It's an effective way to help solve many of your operating problems, this year and every year.

To begin with, the Johnson Joint steps up production. Its simple trouble-free design saves valuable time that is wasted when machines are shut down to repack or repair stuffing boxes. In addition, it provides a simple, neater way to install more efficient methods of syphon roll drainage.

While production goes up, maintenance costs come down. The Johnson Joint has no packing to wear out, needs no oiling or adjusting, and absorbs trouble-causing misalignment—both lateral and angular.

Reducing maintenance of course stretches your manpower—makes hard-to-get help available for more productive work. This is particularly important today. From every standpoint, you never had greater need for the Johnson Joint than you have *right now.*

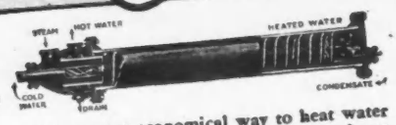


Write for full information

The Johnson Corporation

814 Wood St. **Three Rivers, Michigan**

NEED HOT WATER?



The simplest, quickest, most economical way to heat water with steam is with the Johnson Instant Heater. Needs no reducers; hooks right up to high pressure steam lines. Available now in lower cost, all steel construction, or for use in process work with heating chamber of copper tubes.

Complete range of sizes, capacities; write for bulletin

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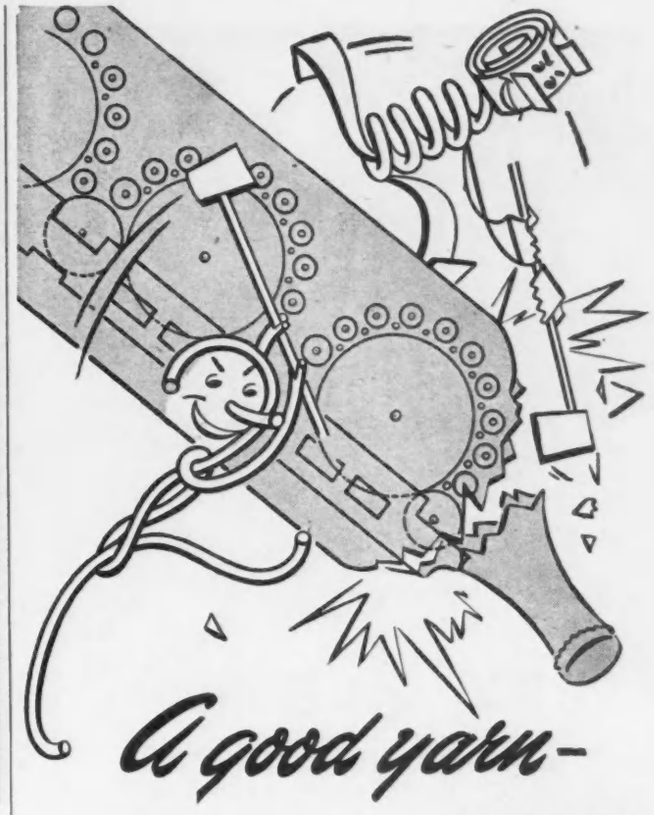

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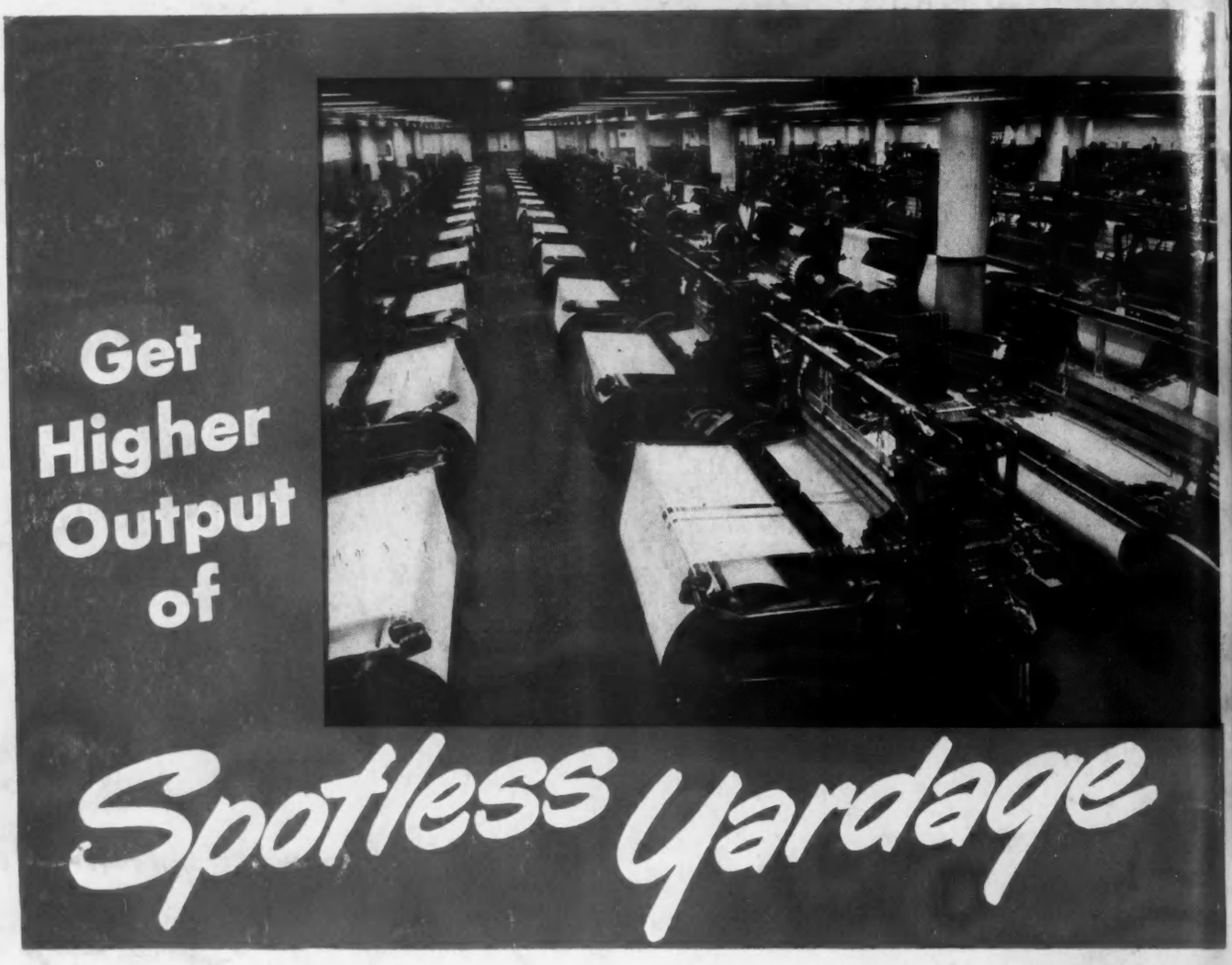

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